

THE BIRDS ABOUT DELHI

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TOGETHER WITH
A COMPLETE LIST OF BIRDS OBSERVED IN DELHI
AND THE SURROUNDING COUNTRY

BY

Major-General H. P. W. HUTSON, C.B., D.S.O., O.B.E., M.C.



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Major-General H. WILLIAMS, C.B., C.B.E.



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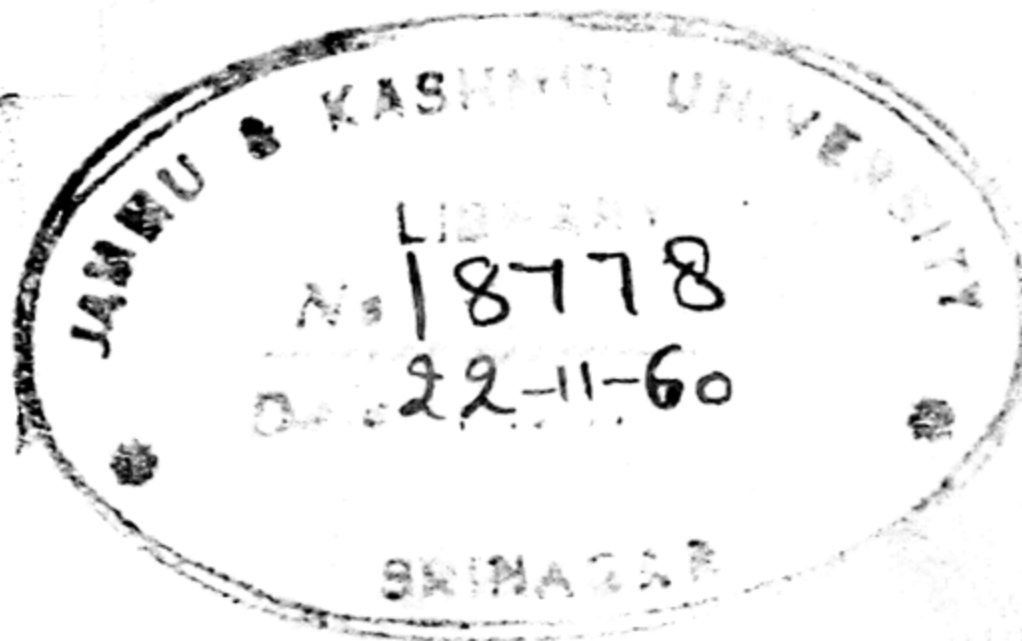


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PREFACE

In 1952 Major-General Hutson sent the Delhi Bird Watching Society his notes on 'The Birds About Delhi,' together with a list compiled from observations during two seasons June 1943 to May 1945. With his permission and, with a view to stimulating others to observe the bird-life of Delhi and the surrounding country, the Society decided to publish his notes, including at the same time brief information on the other birds now in the Delhi Bird List.

Accordingly, in the following pages will be found an Introduction written by General Hutson with a short additional note on migration, followed by the complete Delhi Bird List with notes by General Hutson on the birds he observed, and very brief notes on the remainder by H. G. Alexander.

The first attempt at a systematic list of Delhi birds appears to be that published by S. Basil-Edwardes in the Journal of the Bombay Natural History Society in 1926 (Vol. XXXI, pp. 261-73 & 567-78). This was based on observations made during the winter months only. In December 1947, Sir N. F. Frome published a further paper (J.B.N.H.S. Vol. XLVII, pp. 277-300) based on observations made by himself and others during some fifteen years, including all known records within thirty miles of Delhi to that date. The Editor of the Journal inserted some additional notes based on the list prepared by Major General Hutson and, in subsequent numbers of the Journal, a few further notes were sent by Sir Edward Benthall, H. G. Alexander and others.

In recent years, various members of the Delhi Bird Watching Society, including Capt. H. C. Ranald R.N., F. C. Badhwar, C. J .L. Stokoe, Lav Kumar, A. Herbert and L. Harrison have added to the list which now includes some 370 species.

The preparation of these notes for the press has been done during the limited spare time which the rather busy official life of New Delhi allows, and so inevitably mistakes have crept in and for those the compiler alone is responsible and asks the reader's forbearance.

The Society's thanks are due to Major-General Hutson for his generosity in placing his notes at its disposal, to Horace Alexander for much help and advice in the subsequent compilation of the book, to Major Stiffle and Mary Mangat-Rai for doing the proof-reading and to M. L. Mullick who spent long hours in preparing the manuscript for the press.

A handwritten signature in black ink, reading "A. Williams". The signature is written in a cursive style, with a long, sweeping horizontal line extending from the left side of the page.

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INTRODUCTION

The material for these notes was obtained during some 2½ years at General Headquarters India in the period 1943—45. It was a time when bird watching could only be undertaken during the limited hours allowed for recreation. For the first 12 months from June 1943, I had to confine my activities to ground within walking distance of my hostel in New Delhi. Fortunately, samples of most of the types of habitat occurring round Delhi were to be found within this range and the two most important omissions—rocky terrain and permanent water other than the river—were included later when I joined forces with a bird watcher owning a car. The restrictions of the first year had some compensating advantages. I could cover the ground within reach very thoroughly, and keep areas under sufficiently constant observation to note changes in their bird populations. No collecting was done. My identifications were by sight.

The Lodi Gardens, Lodi Golf Links and Aliganj Nursery were all within a few minutes walk of my quarters and, at the start, were the scenes of most of my watching. Gradually I worked further afield eastwards from the golf links ; first to the Delhi-Agra railway and then on to the Jumna river and southwards between the railway and the Gurgaon road to Suraj Kund. I covered pretty thoroughly the riverain belt from Purana Qila to some four miles south of Okhla. Towards the end of my stay, I made several trips to the country north of Delhi between the Alipur road and the river. These trips did not extend more than 10 miles beyond the city.

THE DELHI LIST

The bird population of Delhi is a large one, both in the aggregate and by species. I identified with reasonable certainty over 250 species, and on several occasions met more than a 100 of these in a single day. About half the species seen were resident in the area, and rather more than a quarter of the remainder either visitors or on passage. The rest, which my records did not enable me to place in either of these categories, have been provisionally classified as vagrants.

RESIDENTS

About one hundred and thirty species were noted as being resident in the area under observation. Some twenty of these were classified as either scarce or occurring only in small numbers and the remainder as plentiful or, in some instances, numerous. The most common of all, in the sense of being so generally distributed that one could scarcely fail to see them in the course of a day, are probably the following species :—

House Crow (*Corvus splendens*)
Large Grey Babbler (*Argya malcolmi*)
Red-vented Bulbul (*Molpastes cafer*)
Indian Robin (*Saxicoloides fulicata*)
Common Mynah (*Acridotheres tristis*)
Hoopoe (*Upupa epops*)
Green Parrakeet (*Psittacula krameri*)
Pariah Kite (*Milvus migrans*)
Little Brown Dove (*Streptopelia senegalensis*)
Indian Ring-Dove (*Streptopelia risoria*).

No other species are quite so catholic in their choice of habitat and their occurrences vary accordingly. The Bay-backed Shrike (*Lanius vittatus*) for instance is plentiful in parkland, thin woodland and in light scrub ; but is only occasionally seen in the garden and scarcely at all in the almost treeless cornland. The Tree-pie (*Dendrocitta vagabunda*), to give another example, is typically a bird of the gardens and woods ; it occurs commonly also in parkland but is absent from the light scrub and open cultivation. Perhaps the highest selectivity was that shown by the Striated Babbler (*Argya earlii*). One or two large reed beds by the river were the only places where it was seen.

With many species there were marked seasonal changes of habitat. They were not migrations, in the commonly accepted sense of the word, but were local moves either in search of nesting sites or after food. Thus Brahminy Mynahs (*Temenuchus pagodarum*) which had spent the cold weather in the scrub and waste land where their favourite food at this season, the pink fruits of the caper (*Capparis aphylla*) was plentiful, moved in the spring into the woods and parklands where they could find nesting holes in the trees. And even more noticeable was the change of ground by the King-Crows (*Dicrurus macrocercus*). All through the winter they had been in the open country, in attendance upon grazing cattle, about the freshly flooded

fields with the grass cutters or following the ploughs, anywhere indeed where insect life was being disturbed. Quite suddenly the King-Crows shifted their haunts and moved to the parkland country, to the more open woodlands and to the tree-bordered roads of New Delhi. In places where there had not been a King-Crow for four or five months, the species became one of the most familiar members of the bird community. As with the Brahminy, the motive behind this change of habitat was the need for nesting sites. These two illustrations are not isolated examples ; many other species behaved similarly.

In some cases, instead of moving to a different type of habitat, a community would achieve its purpose by dispersion or thinning out. The Red-wattled Lapwings (*Lobivanellus indicus*) for instance scattered so that individual pairs could each secure a sufficient area for nesting. The Green Parrakeets (*Psittacula krameri*) broke up their bands and flocks seeking, not space so much as suitable nesting holes. Where these holes occurred plentifully and together, these Parrakeets would nest as a colony. The House Crows (*Corvus splendens*) also scatter for the breeding season, although once I did come upon what might have been described as a rookery. Some 50 pairs of House Crows had made their nests in trees extending about half a mile along a railway embankment. Tree colonial nesting as practised by the several species of Tern, by the Bank Mynahs (*Acridotheres ginginianus*), the Cliff-Swallows (*Hirundo fluvicola*), by Egrets and other birds usually meant a change of ground although the move might be only short. Many of the colonial nesting species had spent the winter in comparatively small parties. The Baya Weaver-birds (*Ploceus philippinus*) behaved rather exceptionally in that their nesting moves involved both concentration and dispersion. First the bands gathered. They came from the cultivation into the woodlands and built up large flocks which roosted together. Neither in size, nor in their location did these flocks seem related to any of the subsequent nesting colonies. Whilst in the flock stage the Weaver-birds assumed their breeding plumage, when the time for nesting arrived, the flocks broke up into a number of much smaller groups. This was necessary, since the nests were usually in palms which more often than not grew either singly or in small groups and so could not support more than a limited quantity of nests. It seemed that the non-breeding birds drew apart at the same time and formed communities of their own.

MIGRANTS

As far as my observation goes, Delhi is not a focal point or defile on any great migration route. Only four species — Rosy Pastor (*Pastor roseus*), Red-headed Bunting (*Emberiza bruniceps*), Blue-cheeked Bee-Eater (*Merops superciliosus persicus*) and Blue-tailed Bee-Eater (*Merops superciliosus javanicus*) — passed through in anything resembling a stream. With most of the other migrants there was little or no noticeable concentration. The impression I got was that these migrants arrived dispersed, and went on in the same manner. The Wagtails were partial exceptions. Both the White (*Motacilla alba*) and the Yellow Wagtails (*Motacilla flava*) did make their first appearance in flocks, although not of any great size. These flocks soon broke up into small parties and even individuals, and although there was a gathering again in reed-beds and cornfields before the return journey was started, it seemed that the Wagtails' move northwards was in the main a general drift by small bands. The chief clues to the comings and goings of the majority of the migrants were the reoccupation of old haunts, and absences from places previously frequented. At times, whilst some individuals of a species appeared to be stationary in a locality, others would be passing through. This was noticed with the Black Redstart (*Phænicurus ochrurus*) and also with the Grey-headed Flycatcher (*Culicicapa ceylonensis*). Some species — the Red-breasted Flycatcher (*Siphia parva*) was one — seemed to migrate in a succession of waves.

WINTER VISITORS

Winter visitors greatly outnumbered the summer ones, totalling at least 60 species as against ten. Easily the most generally distributed, and also the most conspicuous, were the Wagtails and the Black Redstarts. The latter showed no concentration in their coming or their departure. Their spread over the area was rapid. Within a day or two of the first comer being seen, all the accustomed haunts were taken up. Only for a very brief period were birds met in places which were not subsequently occupied. It may have been purely accidental that the spots where these Redstarts were seen in the first days of their arrival in the area were largely along its eastern edge. But there were similar indications, although nothing really definite, among the Wagtails and other species and, taken together,

one got the impression that the Jumna river was a migration route. At the end of August and, in early September when the winter visitors are arriving, the banks of the river in the vicinity of Delhi are flooded in many places and this must be so elsewhere along the Jumna's course. The flooded fields and swamps make good halting places for travelling birds, and about Delhi were certainly much used not only by the waders, which one would expect to find in such haunts, but by many other species as well. And, in the case of the Wagtails at any rate, it did seem that they took over their winter quarters by dispersing outwards from the river. The White Wagtails (*Motacilla alba*) spread most rapidly, possibly because their catholic tastes and individualistic tendencies made for scattering, whilst the Yellow Wagtails (*Motacilla flava*) and the Yellow-headed Wagtails (*Motacilla citreola*) both of which, and especially the latter, show a definite liking for moist places, lingered by the river and moved inland more slowly.

The move north commences in February and early March. Amongst the first to go were the Starlings (*Sturnus vulgaris*). They left suddenly and, so far as my own observations went, there was no corresponding passage of other Starlings from further south. In this respect the pattern of the Starling migration differed from that of most of other winter visitors. Nearly always birds from further south appeared and tended to go through those of their kind which had wintered in Delhi, these latter joining the tail of the migrating stream. One cannot be sure on this point. Much closer and more prolonged watching than my spare time allowed would be wanted to reach a dependable conclusion. It did seem, however, that particular haunts, which had been occupied all the winter, continued in use till the end. Whether the same individuals frequented the spot the whole time is, of course, open to question. But they may well have done so. And when these 'home' birds did go it was at or near the close of the passage of that species. A couple of White Wagtails in the compound of my hostel was one example of this. Another was a Black Redstart (*Phænicurus ochrurus*), a male bird, which kept closely to a pitch not much over 50 yards square. It was there on the 15th April, my last recorded date for the species. On the other hand, when Bluethroats (*Cyanosylvia svecica*) appeared in March among the sweet-pea beds in a New Delhi garden where not one of this sort had been seen the whole winter, it did not seem unreasonable to regard them as more likely to be birds on passage

from the south than one's own winter visitors making a last minute shift from their usual haunts which were half a mile or so away.

SUMMER VISITORS

Well before all the wintering birds were gone the summer visitors were arriving. Their coming was a very prolonged affair, beginning in early March with the Koel (*Eudynamis scolopaceus*) and continuing until mid-June when the Nightjars (*Caprimulgus asiaticus*) made their appearance. Not one of these summer visitors, except possibly the last, could escape notice for long. The Koel, the Hawk-Cuckoo (*Hierococcyx varius*) which followed a day or two later, the Golden Oriole (*Oriolus oriolus*), an April arrival, and the Pied Crested Cuckoo (*Clamator jacobinus*) which did not show up till June, all announced themselves loudly. There were noticeable differences, however, in the time each of these four species took to reach the full volume of its contribution to the bird 'song' of Delhi, and their differences were only in part attributable to the build-up of the numbers of the birds. Whereas every Hawk-Cuckoo seemed to begin calling as soon as it arrived, the Crested Cuckoos were silent for a day or two and the Pied Koels opened spasmodically. Weariness was apparently the cause of the Pied Crested Cuckoo's initial silence. The first birds I saw were obviously tired. You could walk up to them with ease. They were most reluctant to take wing. A day or two later their behaviour was altogether different. Filling the woodland with gay cries, they chased one another through the trees and were never still for long. Why were they so tired when they first reached Delhi? Had they come further or flown longer stages than the others? But the slowest of all to reach its full vocal volume was the Golden Oriole. Quite a week went by without even a first whistle being heard. After this, however, it was only a short while before the Oriole's flute-like notes were heard almost throughout the day along Delhi's tree-bordered roads.

In contrast with these noisy visitors, the Paradise Flycatcher (*Tchitrea paradisi*) made a silent debut as did also the Nightjar. The latter was seldom on the wing during light and, unless flushed by chance, could be overlooked. Not so the Paradise Flycatcher with its conspicuous plumage and especially during its first days before it had settled into some shady grove or nook. This Flycatcher incidentally is another species which may use the Jumna river as a

migration route. My earliest records of its arrival were on the river side of Delhi, and were in places moreover where the birds did not take up residence but merely passed through. And I think they went back the same way. My latest record of the Paradise Flycatcher on the 1st October was in a small isolated babool grove on the river bank.

PASSAGE MIGRANTS

11 species have been classed as passage migrants, rather doubtfully in some cases, as my records were too few for a sure determination of their status. Easily the most prominent of the passage migrants, by reason not only of their numbers and the regularity of their appearances, but also because of their conspicuous colouring, were the Rosy Pastors (*Pastor roseus*). They pass through Delhi on both migrations, the passage in each case continuing for about six weeks. In the spring the first Pastors appear about the second week in March ; in the autumn the vanguard of the movement arrives at the end of July. None of the other passage migrants were so equally in evidence on both journeys. The Red-headed Buntings (*Emberiza bruniceps*) came through in large numbers in the spring just as the corn was ripening, but I saw nothing at all of their return.

The two Bee-Eaters, the Blue-cheeked (*Merops superciliosus persicus*) and the Blue-tailed (*Merops superciliosus javanicus*) were something of a puzzle. Both were away a comparatively brief period, from December to March. The former, which was much the more numerous, had passed southwards quite unhurriedly between August and mid-November keeping chiefly to the riverain country ; the latter preferred more wooded areas, halting and hawking from tall tree-tops. But with neither of these species was I at all sure of the timing of the return journey in the spring. My only reliable records were of some parties of the Blue-cheeked Bee-Eaters at the end of May. Bee-Eaters too distant for identification were noticed overhead on one or two occasions from early April. The remaining two passage migrants on my list were the Short-eared Owls (*Asio flammeus*) which probably went through in March and April and the Quail (*Coturnix coturnix*) which I saw going north in the spring, but missed on the way back.

CASUALS AND VAGRANTS

Under this head I have included some 20 species, none of them seen sufficiently often to warrant a more definite classification. Further records may show that the Pied Wheatear (*Ænanthe picata*), which I met twice, is a winter visitor. The Golden Eagle (*Aquila chrysaetus*), noticed only once, may prove to be the same. I think the White-bellied Drongo (*Dicrurus cærulescens*) which was observed on only two occasions, in February and in March, may be found to be a passage migrant. As to the others, there is nothing as yet to point to their being anything but vagrants. Among them were a Brown Flycatcher (*Muscicapa latirostris*) seen in a garden, a Black-headed Bunting (*Emberiza melanocephala*) noticed among a flock of the Red-headed species and a Mottled Wood-Owl (*Strix ocellatum*). Two birds, a Gold-fronted Chloropsis (*Chloropsis aurifrons*) and a Chestnut-bellied Munia (*Munia atricapilla*) were perhaps not even vagrants but escapes. The Chloropsis frequented a garden throughout August and September and, during this period, was to be found regularly perched at the top of a tall leafy tree often indulging in short bursts of song. The Chestnut-bellied Munia, a male bird, was seen on two successive weeks at the end of June and the beginning of July feeding on seeding grasses with a party of Striated Weaver-birds.

ROOSTING NOTES

Among the features of Delhi bird-life are its large scale gregarious roosts centred to a great extent on the city itself. Kites, Crows, Parrakeets and Common Mynahs all come into large roosts every evening and fly out the following morning. They do this throughout the year, even during the breeding season, although in much reduced numbers then. Most of these birds, which roost in the trees and shrubberies of the Delhi gardens, feed outside the built-up area. The Crows and the Parrakeets range ten miles out at least. The daily fly-out from the roost is a most regular affair by suntime and only when the sky is very overcast is the schedule likely to be delayed. First to move are the Kites sailing forth silently in the half light of the dawn, then the Crows flying more hurriedly and cawing, whilst the Mynahs and Parrakeets both wait until it is fully light. On the return flight I thought that the Crows coming into Delhi followed the tree-lined roads in preference to cutting across the open country. Flocks would fly to a road and then turn along

it. These birds would fly at about tree-top level or just below, often weaving in and out amongst the trees. The fast flying Parrakeets did not adopt the practice, nor did the Mynahs.

Some of the roosts seemed almost permanent. At any rate they were in use more or less continuously throughout the period of my watching. Where a shift of roosting quarters did occur, the change was traceable to some outside interference, usually disturbance by war-time building operations. The Crows were particularly susceptible to this and moved their roosting places more than once, although not out of Delhi. The only really large and regularly used roost I knew, up beyond the built up area, was on the golf links. Strips of indigenous woodland had been left between the fairways and round the edge of the course, and this woodland abounded in thickets of thorny evergreen caper (*Capparis sepiaria*) which afforded excellent protection from Owls and other night predatory birds. Thousands of Common Mynahs took advantage of this. Most of these birds seemed to come to the roost from the south and, as sunset drew near, they would be met working towards their sleeping quarters across an area of scrub and waste land. They advanced leisurely with much sitting about. Parties of Mynahs would gather in trees for a while, or alight and feed on the ground. Rarely did any band fly direct to the roost from a distance. The final fly was made from the immediate vicinity of the roost, from a telegraph wire which ran along its south side or from neighbouring trees. All these places became more and more crowded as the roosting time approached. But even the last fly-in did not take the birds into the thickets. Always the Mynahs halted in the tree-tops. The chattering at this stage was tremendous, and lasted whilst the birds were dropping down into the thickets below the trees and securing their perches for the night.

Thickets rather than trees were very generally preferred as roosting places. It seemed to matter little whether a thicket was high or low, whether it formed a large concentrated block or was broken up into a number of separated sections. The real criterion probably was density. This would explain the popularity of the bamboo clumps which grow in so many of the New Delhi gardens, usually one clump to a garden. Common Mynahs took possession of numbers of these clumps and so crowded into them that there could not have been much room left for other birds. But outside the areas frequented by the Mynahs, a clump would often accom-

moderate a wide variety of species. There was one I knew which housed some two dozen King-Crows, a party of Large Grey Babblers, a number of Ring-Doves and several Bulbuls. The King-Crows would begin arriving half an hour or more before sunset. They came in ones, twos and threes, at irregular intervals, flying in presumably from their various hunting pitches in the open country beyond the garden. Arrived at the clump, they would perch first on some bamboos which over-towered the rest. As many as eight of the birds might collect, one above the other, on a single swaying stem where for a while they would preen and utter their '*hartzibeeb-har-tzibeeb*' call. Then, about sunset, these King-Crows would peel off from their perches, one by one, and dive down and disappear into the depths of the clump. Meanwhile the other roosters would have been flying from the surrounding shrubberies and, by the time the last King-Crow had dropped below, the whole community would be settled for the night.

NESTING

The peak period of the nesting season extends from April to July, but nests are to be found in almost every month of the year. The sequence, broadly speaking, is Vultures and the larger birds of prey during the winter months followed, as the weather grows warmer, by the smaller birds of prey, the Shrikes and other species which commonly find food for their young in relatively open spaces, and then during the rains by those birds dependent upon the greatly increased insect and aquatic life which accompanies the monsoon. Among this last group are most of the Storks and Egrets as well as gregarious nesters such as the Baya Weaver-bird which must need vast numbers of grasshoppers and the like to satisfy their nestlings. In the pre-monsoon period, roughly from April to June, riverain birds have their nests : the sandbanks they occupy are under water later.

Little can be said about nesting behaviour, for it was impracticable to keep nests under close observation. One or two matters are perhaps worthy of mention, although it has to be emphasised that they were by no means fully explored. I noticed that there was little uniformity in the length of time spent in their breeding areas by the various summer visitors. The two extremes were the Koel, which stayed in the Delhi area for about eight months, and the Pied Crested Cuckoo which was not there for more than five. None of the other summer visitors remained so long as the Koel nor, I think,

were any as quick as the Pied Crested Cuckoo. The Koel's arrival early in March was at least three months before its hosts, the House Crows had begun to build their nests, but the Pied Crested Cuckoo must have started laying almost as soon as it came, for its fledglings were abroad with their foster parents before mid-August just as soon as the young Koels. Why did the Koels come so early ? Do they go south merely to escape cold weather and return as soon as the temperature rises ? If this is the case, the breeding urge could have played no part in the migration. There is some support for this possibility in the fact that south of Delhi the Crows would be nesting considerably earlier. In Bombay they are perhaps a month ahead, and in Calcutta as much as three. Had the Koel been ready to breed, one would not have expected it to move away from the nesting Crows. Between the lingering Koel and the hurrying Pied Crested Cuckoo, the Golden Oriole may be quoted as spending the average time in Delhi. Arriving during the first week in April, many of the males had taken up their whistling perches by the middle of that month, and in May they were paired. Nesting had begun by the beginning of June and by mid-October the last Golden Oriole had gone—a stay of about six months, compared with the Koel's seven months or more and the Pied Crested Cuckoo's four and a half.

One of the species most easily satisfied in the matter of nesting sites is the Common Mynah (*Acridotheres tristis*). Trees and buildings serve it equally well : all it seeks is a large enough cavity, natural or artificial. And it is quick to take advantage of fresh opportunities. A series of street lamps, where glasses had been broken and left unrepaired for a season were everyone of them taken over by Common Mynahs. Almost the only preference indeed which the species shows is a liking for the proximity of man. This catholic taste in nesting and ability to live amongst human folk must be important factors in the Common Mynah's struggle for survival. In Delhi, at any rate, this Mynah is successful for it is probably the most numerous of any species there. None of the other Mynahs are so impartial, nor are they as numerous. The Bank Mynahs (*Acridotheres ginginianus*) come next. This species, unlike the other, is very specialised in nesting requirements, seeking always a vertical face in an easy soil. Suitable sites occur frequently along the banks of the Jumna and its canals, in the borrow-pits which abound and in the many unlined shallow wells dug for temporary irrigation. There is no sign that the supply of possible sites is in any way

inadequate. The Bank Mynah's restricted choice of nesting site probably does not limit the numbers of these birds, although it tends to localize their distribution. The only departure from the typical nesting sites which I saw was that of a colony which had occupied the weepholes in the brickwork of a railway culvert. Of the other two Mynahs on the Delhi list, the Pied Mynah (*Sturnopastor contra*) is limited less by peculiarities in nesting requirements than by its desire for moist feeding grounds, whilst the Brahminy Mynah (*Temenuchus pagodarum*) which nests if it can in a hole in a tree rather than one in a building faces keen competition, and if one can judge from the numerous quarrels and evictions, probably finds the supply of holes inadequate. Certainly the Brahminy Mynah, though occurring widely over the Delhi area, is nowhere very numerous.

Among the non-gregarious species, the Indian Robin (*Saxicoloides fulcita*) is one of the most common, and its range of nesting site is as wide as that of the Common Mynah. The Robin will build on the ground and in crevices of trees and buildings up to a considerable height. I have found it sitting in the old nest of a Red-rumped Swallow to which it had gained entrance through a break in the chamber wall and, also, in what may have been a Bulbul's nest in a small thorn bush. The height at which a nest is placed does not seem to be a factor of much significance. The Red-vented Bulbul's nest may be at any height from two feet to 50 and the Golden Oriole must have just as wide a range although at generally higher levels. More important than height probably is adherence to a particular position linked very often with a special type of nest. This was well illustrated by the Golden Oriole whose nest was always in the same general situation slung on the outer twigs of a leafy tree. The bird showed a marked preference for the neem (*Azadirachta indica*) which has been extensively planted along the roadsides and elsewhere in Delhi.

The dominant tree in the area is still the indigenous babool (*Acacia arabica*). It provides nesting sites for a high proportion of Delhi birds including the Bay-backed Shrike (*Lanius vittatus*) which was not included among the ten commonest species, but is easily the most plentiful of the Shrikes and a very prominent figure in babool country. This Shrike nests alike in woodland, parkland and scrub, preferring smallish trees with orchard-like density, avoiding only the very open country and tracts of cultivation where trees are few

and far between and which is more the domain of the Great Grey Shrike. The typical nest of the Bay-backed Shrike is a substantial and not very tidy cup with wool or some similar material figuring conspicuously on the outside. The nest is placed in a babool at no great height and usually against a main stem. Almost invariably the owners give away its existence. If one of the pair is sitting, the other is sure to be perched close by and will catch the eye. When there are nestlings the parents become most demonstrative, and do not let anyone come near without displaying their anxiety so obviously that it is only a matter of minutes before the nest is found. For quite three weeks, maybe for longer, after leaving the nest the youngsters remain with their parents learning the art of feeding. Most of the time is spent close to the nesting tree, and although the fledglings gradually extend their daily wanderings, they come back to roost close to the tree where they were hatched. Teaching is by example. One of the parents arrives with a grasshopper and starts eating it whilst a youngster looks on. Presently, the latter takes the food and eats it itself. The earliest fledglings I saw about were in the last week of April, and young birds apparently hunting on their own became noticeable in early June. It was at about this time that the old birds began nesting again, although once or twice it seemed that the second laying was begun whilst the first brood still hung about to be fed. The first nest is not used a second time, but there is a tendency to build in the same locality and often within a few yards of the old site.

Some species which are otherwise gregarious scatter widely for their nesting. The House Crows and the Green Parrakeets have already been mentioned; others are the Pariah Kites and the Common Mynahs. Now and again, where a number of suitable nesting sites exist close together, there may be some form of colonial nesting, but in general it is an affair of individual pairs. The Babbler bands however retain their association. Most of these bands have fairly definite territories over which they range throughout the year, and in the case of the Large Grey Babbler (*Argya malcolmi*) it seemed that nesting took place within the territory. My impression, too, was that the breeding pair did not entirely leave the band. The couple would do the actual building of the nest, although I several times saw a bird with material in its bill being accompanied by some of its followers. If a sitting bird is disturbed, it will usually fly to the band which is probably nearby and which at once sets up a

clamour. At one nest which I visited on several evenings during the incubating period, the sitter's mate would fly up from the band as the latter went by the way to roost and perch for the night on a twig just below the nest. Fledglings when they leave the nest apparently join the band at once. I never saw any alone with their parents. Presumably youngsters with the band would be fed by any member. This certainly seemed the practice with young Pied Crested Cuckoos and the Common and Jungle Mynahs which were fostering them.

Once I saw a band of Large Babblers feeding nestlings. It was a late brood hatched in a nest in a small zizyphus tree in a cultivation patch. There were two well feathered youngsters easily visible from the ground, because the sides of the nest had been flattened down. I could see the Babbler band in the vicinity and presently an adult arrives with food, feeds one of the nestlings and then settles to brood both of them. But a second Babbler, also with food, flies up as well as two others who have nothing. After a pause the bird on the nest leaves and the new comer feeds the nestlings. Two more adults bring food, but the youngsters are not hungry and one of the old birds perches by the nest with the food in its bill. Yet another Babbler comes with food and after it two more. At one time there were five adults with food in the tree, and I saw three of them on the nest together feeding the young birds. No wonder the nest was flattened.

HABITAT

Delhi as a bird habitat is dominated by the babool (*Acacia arabica*). These trees, probably plentiful in the days before the building of the new city, seem to have benefitted by the development of the past 30 years. Not only have individual trees grown to greater sizes, thanks to the more ample supplies of water which the ever extending irrigation has provided, but there has been a considerable amount of planting of babool in belts along canals and railways for protective purposes. Whether these favourable conditions will persist is open to doubt. It may be that the peak of the babool's prosperity is past already. More ornamental trees will replace it in the gardens, it will disappear from the waste lands as these are taken into cultivation and, the goats debarred from so many of their former feeding grounds, will be more than ever destructive to it. It looks as if the days of the babool as a sizeable tree were numbered. Similarly, the two capers, *Aphylla* and *Sepiaria*, both found principally in the waste

lands and in neglected woodland, are likely to diminish as more of the country is reclaimed. The disappearance of the babool would materially affect many of the Delhi birds. The three Shrikes for instance, the Great Grey Shrike (*Lanius excubitor*), the Bay-backed Shrike (*Lanius rittatus*) and the Rufous-backed Shrike (*Lanius schach*) all seem singularly dependent upon this tree for nesting, roosting and resting as well as for perches from which to watch for prey on the ground below. The Great Grey Shrike might find a partial substitute in the date palm, the Rufous-backed Shrike will use tall bushes and reeds as look-out posts and the Bay-backed Shrike commonly perches on telegraph wires. But these alternatives could not fully replace the babool. As this disappears, so too in all probability will the majority of the Shrikes ; if any adapt themselves to the new conditions it is most likely to be the Bay-backed Shrikes.

Far reaching, too, would be the effects of the loss of the caper. This leafless shrub which now grows in abundance around Delhi is closely linked with many birds. It fruits twice a year, and the pink cherry-like berries it bears do not fall as they ripen but remain hanging on the bush thus providing a long continuing food supply. The Brahminy Mynah (*Temenuchus pagodarum*) feeds very largely upon them. In fact, throughout the non-breeding season, the caper shrub is the most likely place to find this bird. Probably it roosts as well as feeds there. Undoubtedly, too, this caper harbours a rich insect community. Many small birds, notably the Lesser White-throat (*Sylvia curruca*) and the Rufous-fronted Wren-Warbler (*Franklinia buehanani*) search its tangled maze of twigs most industriously. In the following season Purple Sunbirds (*Cinnyris asiaticus*) figure prominently amongst the caper's visitors. They do not come only for food, but also seeking material for their nests. Pieces of down, gossamer-like threads and similar stuffs, blown about by the breeze are caught by the small thorns along the caper twigs. Almost every caper bush carries a plentiful supply conveniently hung up for the Sunbirds to take away. The female who does the building will make a couple of trips a minute. She only takes a few seconds, five to eight perhaps to poke the material into place ; all the rest of the time she is flying to and fro.

The thorny caper (*Sepiaria*) also plays an important part in the bird environment. During its fruiting season which is comparatively short, extending over some three weeks in August, numbers of Rosy

Pastors, Mynahs and Babblers come to the thickets to feed, but its role throughout the greater part of the year is to provide safe roosting places. The Mynah roosts have been mentioned. There were other *Sepiaria* thickets into which Bulbuls and a variety of small birds poured nightly. One thicket I knew, draped in a manner very typically of this caper about a babool, was the home for more than two years of a couple of Collared Scops-Owls (*Otus bakkamæna*) : protection from light rather than from predators was presumably what they sought.

There are many other trees and shrubs important to the birds. The berries of *Salvadora persica* attract flocks of Common Mynahs, Bank Mynahs, Rosy Pastors and Crows as well as Babblers, Bulbuls, Yellow-throated Sparrows and many more. Another favourite is a cordia whose clusters of orange coloured fruits are abundant in April. Nearly always throughout the year some indigenous tree or shrub provides the birds with food, if not its own fruits, then in the shape of insects attracted to its flowers. And as this indigenous vegetation disappears or is reduced by constant and concentrated grazing to diminutive stature, one or other of which fates seems likely as the development of Delhi proceeds, so there will be changes in the bird population. Some species no doubt will be able to adapt themselves to the new conditions. They even find them advantageous. The wide-ranging Parrakeets, for instance, which are quick to locate and raid a ripening crop may find the increasing cultivation beneficial. Many of the trees newly planted in the Delhi gardens suit their tastes admirably as does the wheat which is being grown on former waste lands. For insect feeders, too, the development of the land may mean more food. But as gardens and crops replace the present waste land, Delhi will become a much more uniform bird habitat than it is today. The few small jheels, with permanent water which still remain, and the last reed-beds will almost certainly go as well as the indigenous woodlands. With this growing uniformity of habitat the present variety of bird-life must diminish. The fact that more than a 100 different species are to be seen now in the course of a single walk is due to the many types of habitat which are traversed.

H. W. HUTSON.

ADDITIONAL NOTE ON MIGRATION

Further observation in recent years seems to modify General Hutson's opinion of the extent of migration passing through Delhi. The migration is most noticeable near the river and a large part of New Delhi is perhaps outside the main line of migration. Year by year, in addition to the Rosy Pastors and Red-headed Buntings, great quantities of Wagtails, White, Yellow and Yellow-headed may be seen. In March or April, soon after dawn and towards dusk, flock after flock of Wagtails passes north over Old Delhi. At the same time of year, scrub near the river may be alive with Bluethroats, Lesser Whitethroats, Booted Warblers and other small birds of passage. Smaller numbers of Swallows (several species), Larks, Pipits, Drongos, Hoopoes, Bee-Eaters, Red Turtle-Doves and other species can also be seen at this time of year passing northward. Wherever there are suitable portions of wet mud by the river itself, quantities of Stints (Little and Temminck's), Sandpipers (Wood, Marsh and Green), Ruffs and other waders can be found, the composition of the flocks changing from day to day. Occasional Gulls and Terns (including Gull-billed, Common and Whiskered) also use this route. Sometimes flights of Duck or Geese or Cranes may be seen winging their way northward.

The autumn migration is similar. At this season the movement of Swallows (*Hirundo rustica*) is usually much more pronounced. Certain Warblers, such as the Greenish Willow-Warbler and the Great Reed-Warbler are much more abundant in autumn than in spring. On the other hand, the Greyish Willow-Warbler appears on the Ridge in small numbers every spring, but has not been noticed in autumn.

A river flowing north and south nearly always provides a flight-line for migrating birds. The Jumna seems to be no exception.

H. G. ALEXANDER.

THE BIRDS ABOUT DELHI

Brief notes by H. G. Alexander are marked with an asterisk thus *

* RAVEN

Corvus corax

Two old winter records. It may occur on the desert side, but records must be accepted with caution, since the Punjab Raven is scarcely larger than the Jungle Crow, which has an almost equally heavy bill. The Raven is best identified by its voice.

* JUNGLE CROW

Corvus macrorhynchos

Occasional vagrant. Probably odd birds are nearly always present in the district, but there seems to be no proof hitherto of breeding.

* ROOK

Corvus frugilegus

Five seen in flight near Okhla in spring. A rather doubtful record. Common in winter in North Punjab.

COMMON HOUSE CROW

Corvus splendens

This is the common Crow of Delhi. One or two pairs of *C. macrorhynchos* (Jungle Crow) are reported to have established

themselves on the northern outskirts of the town, but appear to be very restricted in their haunts. There was also one record (not certain) of *C. corax* (Raven).

The House Crow is quite ubiquitous in the area. It will go anywhere there is food. Just before daylight, the flocks start flying out from their roosting places. They range far afield, certainly 12 miles out which was the limit of my watching. In the evening the birds return, not in the purposeful fashion of the morning flight, but in a spread out leisurely manner, interspersed with halts and often with a bathe on some flooded flower bed or lawn. Crows may be seen heading towards their roosting place two hours or more before the actual roosting time, whilst in a summer evening, individuals will be flying in after the first stars have appeared.

In their feeding, House Crows are essentially opportunists. Little comes amiss or is missed. Anything on the road—a hare or a bird which has been run over, a toad squashed flat, horse droppings—they are onto at once. They will take turns with Vultures at a dead turtle by the river, join with Common Mynahs in searching the scarlet blooms of the bombax trees and jostle with the noisy mixed gatherings which scramble for the juicy fruits of the *Salvadora persica*. Rubbish dumps are among their regular hunting grounds. In addition, they will attack and peck to death creatures weaker than themselves, fledglings too young to fend for themselves and sickly birds. They deliberately search for the nests of other birds and take the contents. Doves and Babblers seemed the principal sufferers round Delhi and it was by no means uncommon to see a Crow making off with one of their eggs in its bill. When the Terns were nesting, a flock of Crows used to wait on the next sandbank and, from time to time, one would make a dash for the Ternery. In this case the Crow did not have things all its own way, and although I did not see a bird actually struck it was often forced on to the sand where it would crouch and duck as the Terns swooped down at it.

Nesting was not gregarious. I only once came across anything approaching a colony. In this case there were some 50 nests in about half a mile of woodland alongside a railway and a few of the trees held two or even three nests. Apart from this, only individual nests were found. The end of May is perhaps the usual time for

building to begin, but this is probably influenced by the rains. In 1944 some pairs were induced by unseasonable weather to start in March. Their attempts however were soon abandoned. The following year the rains were late and so were the Crows and I did not see a nest till 2nd June. Both birds take part in its building. They are to be seen in the vicinity of the site for several days before actual building begins. Twigs are picked up from the ground and also broken off trees. The Crow carries them in its bill but does not as a rule fly directly onto the nest. More usually it alights in the tree well below and works up to it from branch to branch. Possibly it has learnt that this is an easier approach than coming from above through a canopy of closely set twigs. Nest building takes at least a week. Fledgling Crows were first seen out of the nest in August. They are distinguishable from the adults by the red inside their mouths and by a less deep caw.

House Crows are much given to mobbing other birds. Their most usual targets were the Dusky Rock Eagle-Owls and the Crested Honey-Buzzard. Other species they were seen tormenting were the Mottled Wood Owl, White-eyed Buzzard, Steppe-Eagle and King Vulture. Sometimes the victim was perched prominently on a tree-top, at others it was relatively well hidden in a thicket or leafy tree. In these latter cases there would be other birds, Large Grey Babblers frequently taking part with the Crows and it seems likely that it was these smaller birds who first discovered the objects to be mobbed, and that their calls had brought the Crows to the spot. I have seen Crows on their way to roost turn back to join in a mobbing. Most of their effort goes in cawing and in flying at the victim and then drawing back. Now and again a Crow may have actually buffeted the other but this was exceptional.

(For parasitism by Koel see under the latter).

INDIAN TREE-PIE

Dendrocitta vagabunda

In comparison with the House Crow the Tree-Pie is not a numerous species, but it is widely distributed over the area and will

be found wherever there are trees. Parties and possibly pairs have haunts which they occupy more or less permanently though, at times, they probably range some distance afield for their food. The party is a loose association, but its members will frequently be found together and seen flying through the trees one after the other.

The Tree-Pie is seldom silent and is often very noisy especially when in parties. Its wide variety of calls falls into two main groups, the harsh quick notes such as '*tckik-itak-tuk-tuk*' and '*ak-ak-ak*' which are probably alarm calls and signals, and the more musical and pleasing series '*kooki*,' '*kukalink*', '*bobalik*' etc. I have heard the former used with great vigour when a pair of Crested Honey-Buzzards invaded a grove which was the haunt of a party of Tree-Pies and I can only imagine that the clamour was intended as abuse. On the other hand, one evening a chorus of '*kooki*' calls from four Tree-Pies gave the impression of song. Although I never saw a Tree-Pie with the egg of another bird there were several occasions when it was met making a hurried get-away with a pair of Bulbuls or Ring-Doves in pursuit. There is little doubt that it does hunt for eggs systematically.

The Tree-Pie's own nest is a rather small, flimsy structure placed at some height (20-30 feet) in a tree. Its slight nature tends to make it inconspicuous but it is not usually particularly well concealed and the projecting tail of the sitting bird will often catch the eye. I found my first nest on the 17th May and others in June. Newly hatched nestlings which could just raise their heads appeared from below the tree to be black with the inside of the mouth red. At about ten days old, when they were standing on the edge of the nest, they were well feathered and, save for their stumpy tails, were very similar to their parents. They left the nest on the morning of about their thirteenth day, but that evening were back in the tree as if intending to roost there. Youngsters seen abroad in August looked very like adults, but their tails were broadly edged black and lacked the long central feathers with the black tip preceded by a white band. These youngsters and others seen in September which had acquired the long tail feathers but were still with their parents, used a rather complaining call, a kind of '*eeah*' which was repeated frequently and is presumably a call for food. At this stage the

young birds did not differ noticeably from the adults, except that the latter had the inside of the mouth black. A family party would fly off in single file, the black tail tips looking like following dots behind each bird due to the impression of separation caused by the white band immediately above.

* GREY TIT

Parus major

One definite record in May. Appears to be a very scarce vagrant.

CHESTNUT-BELLIED NUTHATCH

Sitta castanea

This bird is nearly always met singly but I did come across one little party of three, perhaps a family, which for over a fortnight in May and June hunted the babool trees in a piece of parkland. It is not a numerous species in Delhi and is very local in its distribution. I found it in woodland and parkland. It will search a tree very thoroughly starting low down on the trunk and working upwards to the topmost twigs. On occasions it accompanies the mixed hunting parties of Wood-Shrikes, Warblers, Flycatchers and other small birds, which work through the woodlands.

No doubt the Nuthatch often escapes notice but its call, a rather pleasant little trill, is very distinctive and once known should attract attention. When only a glimpse of the bird is caught it appears pale grey above and deep chestnut below. A better view will show the black stripe through the eye and the white throat.

JUNGLE BABBLER

Turdoides somervillei

In the more mature gardens of Old Delhi, and in some of the denser patches of indigenous woodland, the Jungle Babbler replaces

Argya malcolmi as the commonest of the Babblers. Elsewhere it is less numerous. It is the most arboreal of its kind, and although a ground feeder, spends much of its time in trees and nearly always retreats into one. It runs most nimbly over the branches, quickly working upwards through the tree. Unlike the Large Grey Babbler it seldom ventures onto roads and open spaces and prefers always to keep close to cover. Whilst some of the parties in which the Jungle Babbler lived were quite small, often only half a dozen birds, others were more than twice as large. These bigger bands were met in the areas of good cover.

Jungle Babblers are not as noisy as Large Grey Babblers. At times a band will break into a sudden outburst of squeaky calls but there is usually an obvious cause. They chatter excitedly when alarmed or disturbed. A jungle cat slipping through the undergrowth arouses them and they follow it calling the whole time. Similarly, a jackal making off receives what can only be abuse. But the reiterated calling for no apparent reason which is so characteristic of *A. malcolmi* is not a marked habit of this species. Both birds practise what may be described as communal de-ticking, but here again the Jungle Babbler is the quieter performer. I watched three birds of a party perched side by side on a branch. The two outer birds were going over the one in the centre most methodically. The latter was all puffed up, held its head on one side as a man being shaved might do and had one wing raised. Whilst one attendant searched the head and throat, the other looked under the wing. Another habit, noticed among birds which have retreated into a tree from which they are scolding, is that of fluffing up the plumage so that the bird becomes an untidy feathery ball and twice its original size. This is presumably a form of aggressive demonstration.

Nesting extends from March to September, possibly later. The earliest nest I found was on 26th March. It was a very flimsy structure only some ten feet up in the fork of a small tree but most effectively protected by over-hanging *Capparis sepiaria*. Like most nests of this species, it was built within the territory of the band and when the sitting bird which had flown off came back it was with an escort which chattered in a nearby thicket whilst she slipped quietly onto the nest.

The Jungle Babbler lacks the pale rump and the light sides to the tail which are such conspicuous characteristics of *A. malcolmi*. Instead, the Jungle Babbler's broad and graduated tail is all brown. The larger size of the bird and its uniformly grey unstreaked upper parts as well as its yellow bill serve to separate it from both *A. caudata* and *A. earlii*. These two have the upper plumage streaked. The Striated Babbler (*A. earlii*) has some yellow on the bill but this is chiefly at the base.

* STRIATED BABBLER

Argya earlii

A very local bird, strictly confined to large reed beds near the water. There seems to be some local movement, as birds are noted more in summer than in winter. It has a strange courting flight when one bird will fly round and round some 50 feet up, making a loud Sparrow-like chirp.

COMMON BABBLER

Argya caudata

This is the most ground haunting of the Delhi Babblers. None-the-less, individuals perch freely on small trees and bushes to sing, preen or stand sentry. The pleasant tinkling warble, heard I think throughout the year and often just before sunset, is usually uttered from an elevated perch which the singer reaches by working its way up from the ground, hopping from twig to twig. A band feeding on the ground will usually have one of its members on some vantage point above the grass. Bands varied greatly in size. Many numbered over 20 birds, these higher strengths being usually found where cover and especially tall grass was relatively extensive. Although these Babblers did not as a rule mix with other birds, there were one or two occasions when they appeared to be hunting with a party of Rufous-fronted Wren-Warblers. Breeding pairs nested within the territory of the band. The nest is a deep cup of twigs lined with grass.

A favourite site is a small zizyphus or babool tree amongst *erianthus* grass.

The only Babbler with which this one is likely to be confused is *A. earlii*. The distinguishing feature is the throat which is a definite white and unstreaked in *A. caudata*.

LARGE GREY BABBLER

Argya malcolmi

This species is the most numerous, the most generally distributed and the noisiest of all the Babblers. In the size of its bands too it surpasses the other species. It occurs wherever there are trees. So long as there is one tree, a solitary palm even to which a band can retreat and in whose shade the birds can rest, these Babblers may be met. Only in the more densely wooded areas do they give way to *Turdoides somervillei*. In New Delhi, where every road is tree-lined, the Large Grey Babbler is perhaps the commonest bird of the roadside, feeding on the grass verges and on the roadway itself. Very often the birds forage side by side with the squirrels amicably until a dispute arises over some tit-bit.

The average size of the band must be over 20. A strength of 30 was by no means uncommon. There did not appear to be any connection between size of band and type of habitat. The largest band seen (it was well over 30) got up from a gram patch in quite unlikely looking country for these birds. It is possible they were after the young gram pods and had come from a distance. This species did appear to travel considerable distances in its foraging, but a band would regularly work a definite strip of country moving out from its roosting place in the early morning and returning there at dusk. The Large Grey Babblers are astir early. Before it is fully light they are chattering in their roosting place and individuals can soon be seen flying off to a nearby tree to preen. Then, as often as not, the band will plane down to the ground. This is frequently the start of a noisy performance in which the birds collect in one tree, fly to another, come back to the first, then drop to the ground and hop forward almost in formation, fly up into a tree again and so

on for several minutes to the accompaniment of a continuous clamour. A somewhat similar proceeding takes place at roosting time. There is a preliminary gathering to preen, after which with a great deal of clamour, the band flies off in procession with frequent halts for more chatter. This Babbler does nothing without making a noise. A band feeding on the ground is often scattered over a considerable area and, when one of the birds discovers something, it at once begins to flap its wings and call. This attracts the others who hurry up and add their voices to the outburst. In the same way, when a bird is alarmed, it gets up with a squawking that rouses its companions and the whole band makes off together. Sometimes a single bird would work its way to a tree-top—no Babbler ever flies direct to such a position—and from there pours forth a monotonous '*dee-didee-dee-didee*'. This was not done either as a summoning signal or as an alarm call. Possibly it is the Babblers conception of song.

More than any of the other Babblers, this species is addicted to 'deticking huddles'. You will come upon a band on the ground, on a sandy track perhaps, or in short grass. The birds are bunched together, jostling one another as they hop along. Some look as though they were indulging in mock fights. Individuals squat down or roll over on their backs. Others then stand on them and peck at them or appear to do so. Often the 'huddle' takes place in a tree. A band feeding on the grass below will suddenly begin to fly up and the birds will collect on a branch in one or two closely packed bunches, six to eight birds perhaps in each, some individuals on top of the others. More Babblers fly up and join the huddle till all you see is a heap of bird life with tails sticking up in all directions. As abruptly as it formed the party breaks up and with a clamorous chorus flies off. These 'huddles' take place anywhere and at any time. Sometimes only a few of the birds take part. Most of the larger ones, involving the whole of a band seemed to be towards evening. There was no question of fighting. The bird at the bottom of a pile had lain there voluntarily and submitted to the attentions of its companions without protest. A fight between two Babblers, which was not an unusual occurrence, was a very different affair. The closely locked birds would pluck feathers from each other's breast whilst the rest of the band gathered nearby but did

not intervene. These Babblers often take a prominent part in the mobbing of Dusky and Rock Eagle-Owls.

The nesting season is a prolonged one, extending from March to September with the peak perhaps in May. Most of the nests I found were in babool trees, often leafless, at heights varying from ten to 30 feet. They were flimsy structures which could almost be seen through. Although a nest definitely belongs to a pair of birds and I have seen the mate of a sitting bird perched on a twig just below a nest apparently roosting there, the protection of the nest and in due course the care of youngsters when they leave it seem to be communal matters. One evening I came upon a fledgling in a small tree. It was obviously just out of a nest. The band to which it belonged had flown on a short distance, but directly I stopped to look at the youngster the old birds set up a clamour and when I moved on flew back to it. Exactly the same happened next morning. Youngsters which can keep up with the old birds, but are not yet able to forage themselves, hop along with the band and are apparently fed by any member. The fledgling which closely resembles the adult, save that it has a yellow gape, crouches a little, quivers its wings excitedly and calls. Very often whilst one old bird is feeding it another will be at hand with more in its bill. I met only one case of communal feeding in the nest. It was a late nest and, on the 10th September, contained two well feathered nestlings which must have been about ten days old. As I came up at least three adults flew from the tree. The youngsters were easily visible as the nest had been very much flattened and was only about nine feet from the ground. Within a minute or so an adult arrived with food, fed one of the nestlings and then settled to brood them. Then another bird appeared with food as well as two who brought nothing and after a pause the brooding bird left and the youngsters were fed by the newcomer. Then two more birds flew up, both with food, but the nestlings were not hungry so the two old birds perched near the nest holding the food in their bills. Another bird brought food, then two more. At one time there were five adults with food in the tree and three of them were on the nest feeding the young birds. The flattened condition of the nest was thus explained. All the food brought seemed to be insects collected in the grasses on the bank of the nearby canal.

YELLOW-EYED BABBLER

Chrysomma sinensis

This is the smallest and least numerous of the Babblers excepting the Striated. It does not feed on the ground, but amongst tall grass and thick leafy vegetation such as the Ashy Wren-Warbler chooses and the strength of its bands averages only four to six. Because it feeds so much in the thickets and rough herbage the Yellow-eyed Babbler tends to escape notice. Frequently it is only one of a party that is seen as it comes to the outside of a thicket for a moment, but a little watching soon shows that there are others, for the birds work very actively as they follow one another through the foliage. In their movements they are not unlike Warblers and will cling upside down to examine some down-hanging spray or folded leaf. Their flight however is typical of the Babblers. Either the birds plane down from some elevated position keeping their wings stationary, or they fly with laboured bouncing flight as if most of the effort was needed to keep the body in the air and very little left to drive it along. A party working through the vegetation often keeps up a pleasant rather rippling calling, whilst now and again, an individual will work its way upwards to some elevated perch and sing from there, puffing out its white throat and quivering its tail.

The Yellow-eyed Babbler nests during the rains. It makes a beautiful little circular cup of fine grass interwoven with white threads and well concealed by leaves. This nest which is slung from a couple of plant stems has an internal diameter of about two inches.

Two delightful fawn coloured nestlings just a week old completely filled one nest I found. When they were newly hatched the adults seemed never to leave the nest unattended. One of the pair would arrive with food, usually a small green grub, and would alight first on a tall grass stem some 20 yards from the nest. Next it would fly up to within about five yards, cling to another stem for a moment or two and then go direct to the nest slipping down very quickly amongst the foliage. Not until it reached the nest did the bird already there leave. On one occasion the male after a short song on a nearby bush flew to the nest without any food and took its mate's place.

Yellow-eyed Babblers are frequently found in the same haunts as the Ashy Wren-Warbler and the Indian Wren-Warbler. The Babbler is noticeably larger. As a rule it is its white throat and breast which catches the eye and in flight the russet-brown colour of the wings. The diagnostic feature easily visible through glasses is the triangular shaped bare patch between the bill and the eye. The latter incidentally looks reddish rather than yellow.

MARSHALL'S IORA

Ægithina nigrolutea

The Iora is seldom seen unless looked for carefully. It spends much of its time amongst leafy tree-tops where its bright plumage becomes singularly inconspicuous. This is particularly so in one of the bird's favourite haunts the shisham tree (*Dalbergia sissoo*) whose pale yellow-green seed pods and darker green leaves provide a background which hides the Iora most effectively. But against this the bird has a call, uttered as it searches the foliage, which is most distinctive—a 'tswee-ku-kee' or 'tswee-tswee-tee-dik'—which attracts the observer's attention to its haunt. There are variations to this call, 'ee-teh-wee-hu' and 'chef-worrilee', but these are heard less frequently.

Ioras are met singly and in couples, possibly pairs, and after the breeding season in small parties of four or so which are presumably families. They are active in their movements, almost tit-like at times when they hang upside down to search a leaf.

In winter the sexes are alike, yellow mainly save for a white wing bar. The males begin to assume their breeding plumage in March : a bird seen on the 12th of that month was showing a little black on the crown : another bird met on the 19th had its crown partially black and also some orange on its throat. A week later a male Iora was noticed with a wholly black crown, a very bright yellow throat and sides of head and greenish nape. Birds seen in May had the yellow collar complete : the colour is really a bright orange on the throat but on the back of the neck it is a greenish-yellow. This bright yellow collar is one of the features which distinguish *A. nigrolutea* from *A. tiphia* (Common Iora).

No nests were found but Ioras in pairs were noticeable from March. In August I thought their calls were heard less often and a male seen on the 15th was losing its black crown. By October all the black had gone and the birds were in winter plumage.

GOLD-FRONTED CHLOROPSIS

Chloropsis aurifrons

A single bird which spent the month of August 1944 in the Aliganj Nursery was my only record. It may have been an escape. Regularly every evening this Chloropsis was to be found on the top of a tall tree preening, looking about and uttering little calls and bursts of song. Its usual notes—'tswee-tswee-cheep-cheep'—has some resemblance to the call of a King-Crow, but once known could not really be confused. Often the bird remained on its perch for the best part of an hour. On the 1st September I noticed the Chloropsis for the first time in a different part of the garden and it was not seen again.

RED-VENTED BULBUL

Molpastes cafer

The Red-vented Bulbul is the commonest and most generally distributed of the Delhi Bulbuls, but is typically a bird of gardens and leafy trees. It is recognizable at a glance by its characteristic alert and upright poise when perched, and its cheery 'sweet-william' calls may be heard at almost any hour of the day.

These Bulbuls are met singly, and in pairs, as well as in small parties of four to eight. Several of the birds will often gather in the early morning to preen and sun themselves on the top of a bamboo clump or some other elevated position. There are gatherings too in the evening before roosting. A dozen or more Red-vented Bulbuls will roost together choosing bougainvillaea thickets and bamboo clumps rather than trees. Thick *Capparis sepiaria* clumps also attract them.

The Red-vented Bulbul is a great fruit eater. It was seen feeding on several species of wild fig, on wild dates, on the pink berries of *Apcer aphylla* and on the hard yellow-brown fruits of *Zizyphus numularia*. Insects are also included in its diet.

This Bulbul seems to discover and mob Owls more than other birds do. Its tree and shrubbery haunting habits are probably the explanation. Parties were seen mobbing the Spotted Owlet (*Athene brama*), chattering at a Scops Owlet (*Otus bakkamæna*) found asleep in a thorny thicket and taking part with King-Crows in an attack on a Mottled Wood-Owl (*Strix ocellatum*). Possibly it was merely a coincidence that all these mobbings, apparently quite unprovoked, took place in the spring (March-May) but it may be that at this season the Bulbuls are unusually pugnacious. The pursuit of a Common Hawk-Cuckoo witnessed in May was probably directly connected with the pursuer's nesting.

The first nest found was on 27th May : it contained three eggs. At the time the owners were not about, but three days later one of them was sitting. The nest was a rather flimsy cup lined with fine rootlets, some three feet up in a leafy shrub. June seemed the month chosen by most of the Bulbuls for their nesting, but the breeding season as a whole continued into August. Nests may be found in trees, shrubs and thickets at heights ranging from 2 to 40 feet above the ground. Often they are slung from horizontal forks. Some are very well concealed, others not hidden at all. Quite commonly a site in close proximity to that of another bird is chosen : King-Crows were the most usual nesting companions, others were the Golden Oriole, Paradise Flycatcher and White-browed Fantail-Flycatcher. Both sexes take part in nest building but most of the work is probably done by the female, her mate accompanying her to and from the nest.

A nest found on 11th July had probably been built during the first week of that month. The owner was sitting, her black head just visible. The young were hatched about 17th July, and ten days later there was a single nestling flapping its wings. It had the red patch under the tail and also showed a red gape. Its companions had presumably just left the nest. The whole family—two adults and three fledglings—remained in the vicinity of the nesting tree for

the next 10 days or so, the young birds with their tails still short and their black heads rather untidy looking. Towards the end of the period the parents would fly up as I approached and call their youngsters to them.

WHITE-CHEEKED BULBUL

Molpastes leucogenys leucotis

The White-cheeked Bulbul is a bird of the bush rather than of the garden. It is a thicket-lover, haunting *Capparia aphylla*, *Capparis sepiaria* and *Zizyphus numularia* where it is met singly or in couples usually, but sometimes in small parties amounting to perhaps half a dozen. In suitable localities this Bulbul is plentiful. The berries of *Salvadora persica* attract it, and so do ripening dates. Its call note—a crisp ‘pritty-pritty’—is easily distinguishable from that of *M. cafer*. Singing began early in March and was also heard after the breeding season in October.

Nesting is between April and June. Nests were found in the thickets of *Capparis sepiaria* and also in small babools. They were usually low down, some two or three feet from the ground : the highest found was only five feet up. The nest is a small cup of fine grasses and fluff slung between two stems. When the nestlings are quite young, the parents may not be very demonstrative as one approaches, though they will possibly fly up and perch close at hand. Their attitude alters when the youngsters are nearly fledged and they show great anxiety. In one case an adult clung to a perch and fluttered a wing as if injured.

Only one case of mobbing was noticed—a single White-cheeked Bulbul in company with several Purple Sunbirds and a Tailor-bird was chattering at a Collared Scops-Owl.

RED-WHISKERED BULBUL

Otocompsa jocosa

This Bulbul is a garden species apparently newly come to Delhi and now establishing itself. There seems to be no record of this

species before 1941. The following year it was seen frequently. Now it nests. The numbers are still small but seem to be growing.

One might have expected the Red-whiskered Bulbul to have been seen first in Old Delhi where the gardens are long established and well wooded and to have spread from there into the more recently planted New Delhi. But this does not appear to have happened. The bird has come direct to New Delhi and the explanation may be the bamboo clumps which have been planted in most of the gardens and are a favourite haunt of this Bulbul elsewhere in its range.

There should be no difficulty in recognizing the Red-whiskered Bulbul. The combination of jaunty black crest, white under parts and very upright poise when perched make it a bird which is known at a glance. If there is any doubt a close look should show the scarlet patch behind the eye.

* WHITE-BROWED BULBUL

Pycnonotus luteolus

Has been seen once or twice in New Delhi.

* HIMALAYAN TREE-CREEPER

Certhia himalayana

General Hutson is himself the only observer of this species, which he recorded once in January. It descends to the Punjab plains in winter, but Delhi is far beyond its usual winter quarters.

SPOTTED GREY-CREEPER

Saipornis spilonotus

The Spotted Grey-Creeper was seen on only three occasions, a single bird on 4th June 1944, three of them on the 24th September following and two next year on 19th September. All of these were practically in the same place, a strip of woodland on the western edge of the Lodi Golf Links. The probability is that the birds were on passage.

On the first occasion a grey bird, obviously not a Mahratta Woodpecker, flew from a tree. It did not go far before alighting on another tree where it worked up the stem making frequent pauses and looking around whilst uttering a weak little song. The three Creepers seen the following September were in almost the same spot as the first : two were searching the trunk of a babool, the third was on a palm. The last two, seen in September 1945, were within 200 yards of the first spot. They were working on some babools and were keeping more or less together.

The only bird I think which might be confused with the Spotted Grey-Creeper is *Certhia himalayana* (Himalayan Tree-Creeper). The former has the tail barred white and black whilst with the latter it is brown and black. These barrings show on the outer tail feathers as the bird works up the tree trunk. Other features to look for in the Spotted Grey-Creeper are the spotted rather than streaked upper plumage, the dark line through the eye and the white one above : barring on the under parts may be visible on the vent.

Field description : Upper parts grey closely spotted with white : darkish line down crown and nape : dark line through eye and white one above it : throat white : bill rather long and curved.

* Other observers have noted it in other localities. Recently it has been seen during the winter months on the Lodi Golf Course. It very easily escapes observation.

* WALL-CREEPER

Tichodroma muraria

During the war one was seen on the walls of the Secretariat. In January 1951 one was present at the Qutab Minar for two or three weeks at least.

PIED BUSH-CHAT

Saxicola caprata

The Pied Bush-Chat is a bird of the open country with a preference for riverain tracts and the vicinity of jheels. In such areas it is

plentiful. It seemed in some way linked with reed-beds and *erianthus* clumps. Only rarely was it found where these do not occur. It is met singly and in pairs, usually on some low perch, a rush or a small shrub and probably does not wander much.

Snatches of song from a male were heard as early as 30th January. In February some birds were paired and males sang from their chosen perches usually on small bushes, once on a telegraph wire. I also saw a male singing on the wing. In March most of the Bush-Chats had paired, singing was general and nesting had begun.

The male of one pair was noticed singing on 4th March. A week later the bird was singing in the same place and its female alighted in a bush nearby. She had a loop of fine grass in her bill and after a pause flew to the bank below. Another pause during which she was out of sight and then she flew off. The male went on singing. I found the nest in a small hole in an earth-bank. It was made entirely of grass but was unfinished. On 18th March the male was on the same bush : the female peered out from the nesting hole. There were three eggs. Very soon after the female came back, perched on a dead stalk in front of the nest and then slipped in. On the 25th the female was still sitting.

Fledglings were first noticed in May. They were so frequently in beds of rushes and tall grasses as to suggest that these Bush-Chats habitually take their youngsters to such spots. One fledgling waiting on a rush stem to be fed had its upper plumage mottled in appearance due to light buff edges of the feathers. Both parents bring food. On one occasion a small dragon fly was brought.

Probably a second brood is reared. On 10th June a pair of Bush-Chats, both with food, were going into a tussock of rough grass. The nest at the end of a short tunnel through the grass, contained three pink and black nestlings. A female was feeding a fledgling in the rushes on 8th July.

Field Identification—The male Pied Bush-Chat is black save for its white belly and a white fleck on the wing. The only bird with which confusion is at all possible is the Strickland's Wheatear. The front view in both cases is of a black coloured bird with white on the lower belly. In flight the Wheatear shows its white rump and tail, whilst the Bush-Chat exhibits only a white patch on the wing.

The female Pied Bush-Chat has generally greyish upper parts, no white on the wing and a reddish rump or base to the black tail. It somewhat resembles the female Stonechat. But the latter has its upper plumage more streaked and its black tail has a white tip. The base of the latter is rufous but less noticeably so than in the female Bush-Chat.

STONECHAT

Saxicola torquata

The Stonechats are winter visitors to Delhi where they frequent open waste land, dry cultivation and the edges of reed-beds. The birds are usually met singly, occupying some low perch. In March and April, the last two months of their stay, they were several times seen in pairs.

The earliest date on which Stonechats were noticed was 10th September. That was in 1944. I came upon four of the birds on the edge of a millet patch and further on several others in similar situations and on low herbage close to cultivation. On the 24th of the same month well over a dozen were in a small area of low tamarisk by the river. Each of these birds was on a separate perch. In the following year, no Stonechat was seen before 7th October. This apparently late arrival may have been due to the unusually late rains and floods which kept the birds in areas which were drier. Throughout their stay the Stonechats were plentiful. In the second half of March a marked increase in their numbers became noticeable. On one day in 1944, the 26th March, they were particularly numerous and in a small area of corn land I counted 20, all on low perches. A similar increase was noticed about the same time the next year. It may have been that birds from the south were coming through. This possibility is strengthened by the fact that both instances were in the country close to the River Jumna which seems to be a migration route.

The increased numbers continued through the first half of April. Moreover, birds were now seen outside their usual haunts. The move was evidently in full swing. And by mid-April the Stonechats

had left Delhi. Only an occasional individual was seen after 14th April.

When the Stonechats arrive they are in winter dress. Towards the end of March several males were in full summer plumage and looked very gay indeed. Even in winter dress the male Stonechat should be easily recognized, but the female is very like the female of *S. caprata* and, since the two species are to be met in the same haunts, they may be confused. The streaked upper parts of the Stonechat afford the best means of identification.

* The earliest and latest dates recorded by the Delhi Bird Watching Society to 1952 appear to be 1st September and 27th April.

*DARK-GREY BUSH-CHAT

Rhodophila ferrea

Two doubtful records : a species which breeds in the Himalayas, descending to the Punjab plains in the winter. It is longer in the tail than the other Chats.

PIED WHEATEAR

Enanthe picata

The Pied Wheatear was a scarce winter visitor. It was seen between November and March, always singly and only one or two records each month. Open waste land and rock strewn country seemed this Wheatear's favourite haunts and apparently each individual kept to a particular area. The bird hawks from low perches on small trees and plants, but was also seen on the telegraph wire.

The male Pied Wheatear is distinguishable from *O. opistholeuca* by the greater amount of white on its under parts : it is white from the breast downwards, whereas the other has only the under tail-coverts white. The females of the two species are very alike.

* In areas rather further from Delhi than the country covered by General Hutson it is not an uncommon winter visitor, the numbers perhaps varying year by year.

* WHITE-CAPPED WHEATEAR

Ænanthe capistrata

Probably a few visit the Delhi district every winter. This species is distinguished from the Pied Wheatear by the presence of a variable amount of white over the eye and on the crown. It sometimes utters a pleasant little song from a perch on a tree or low building.

STRICKLAND'S WHEATEAR

Ænanthe opistholeuca

This Wheatear occurs in small numbers from October to March. The earliest arrival date noted was 15th October. The bird was nearly always met singly. Waste land and stone strewn country were its haunts. A Strickland's Wheatear would settle down in its chosen spot, often by an earth-bank or mound, and would remain within a few yards of the place throughout its stay. One of the birds was seen on the edge of a small cutting from November to February. Another had its territory for at least two months, probably for longer, near some low mounds and the same place was occupied by it or another bird the next year. Bare earth among rocks or in the grass seems an essential feature in this Wheatear's choice of haunt. It feeds on the ground but perches freely on trees and bushes.

Towards the end of February there were signs that the northward migration had begun. On 20th February four of the birds were found in an area previously occupied by only one. There were no records after 5th March.

Field description—The male is all black save the rump, most of the tail and the under tail-coverts which are all white. The absence of white on the breast and belly distinguishes it from *O. picata*.

* Extreme dates to 1952 : 2nd October—17th March.

* ISABELLINE WHEATEAR

Ænanthe isabellina

Occasionally identified in mid-winter. Very similar in plumage

to the female Desert Wheatear : but the tail pattern is different, this species having more white on the outer tail feathers : the bill is longer and usually the eye-stripe is more conspicuous.

DESERT WHEATEAR

Ænanthe deserti

The Desert Wheatear frequents open spaces where the vegetation is short and there are patches of bare earth and sand. It was found in small numbers between October and March in the riverain tracts and also in the rock strewn country about Tuglakabad and Suraj Kund. This Wheatear was met singly, but there were usually one or two others not far off and, in some cases, it may have been that the birds seen were 'separated' pairs. A characteristic of this Wheatear is its tameness. Often a bird seemed inquisitive and would approach the observer rather than fly off.

The male Desert Wheatear is an easily recognized bird, likely to be confused only with *O. isabellina*. It differs from the latter in having a black throat. The females are less easily distinguished, but in the Desert Wheatear the tail is mostly black whereas, in *O. isabellina*, it is white with a broad black terminal band.

* RED-TAILED WHEATEAR

Ænanthe xanthoprymna

Holmer in her book "Bird Study in India" records having seen this species in the waste ground on which New Delhi was being built (? about 1920). The identification is probably correct, but the Desert Wheatear sometimes appear quite buff, almost pale rufous, instead of white on the upper tail-coverts.

BROWN ROCK-CHAT

Cercomela fusca

The Brown Rock-Chat frequents ruins and buildings : it is also seen about villages. It is usually on the ground or about the

building itself, but occasionally perches in a tree. Having taken up a particular haunt it probably does not shift much. A pair was about my hostel for the whole $2\frac{1}{2}$ years of my stay and, in other known haunts, one could be almost certain of finding them at any time. Whilst a single building or tomb might hold only one pair of these Rock-Chats they would be plentiful in the larger ruins such as Tuglakabad or the Azimgarh Serai.

The nesting season is probably from March to June. Fledglings were seen with their parents towards the end of April and in June. The youngsters differ from their parents only in being plumper and fluffier and in having yellowish gapes.

When on the ground, or on a wall, the Brown Rock-Chat has a habit of raising and lowering its tail very deliberately.

BLACK REDSTART

Phænicurus ochrurus

The Black Redstarts are winter visitors arriving at the end of September and in October and becoming generally plentiful. The earliest record was 22nd September—a glimpse was caught of a female. I got the impression that the females arrived first but were not much ahead of the males. At this time Black Redstarts are met in places which are not occupied subsequently and two or three birds are seen in areas which later only one bird frequents. The first comers are noticeably shy and seem unsettled, and perch higher up in trees than is their usual practice.

It is not long before the migrants have settled down. Each bird has its pitch and, in most cases, this will be occupied throughout the winter. A wide variety of haunts suits the Black Redstarts. It is met in woodlands usually not far from the edge, along roadsides, in gardens, in babool plantations and in comparatively open stone strewn country. An essential, wherever it is, is that there should be some sort of cover handy ; a thicket, a shrubbery or even a leafy tree.

A very favourite perch of the Black Redstart is on one of the lower branches of a tree. A gleam of rufous as the bird flies down to the ground is often the first intimation of its presence. Then

you see it in a tree or on the ground bobbing up and down and flirting its tail with short quick beats.

From November to the end of February there was little apparent change in either the numbers or the haunts of the Black Redstarts. The same territories, some of which seemed quite small, continued to be occupied. The proportions of the two sexes were about equal. I got the impression that the males were given to perching on trees whilst the females preferred the ground.

During the last week or so of March, Black Redstarts were seen in places where there had been none during the winter, an indication that birds elsewhere were coming into the area or were passing through. This became more marked in the first half of April when the numbers and also the sexes in some haunts changed. Moreover, as in the autumn, birds were seen in unusual positions, high up on the tops of trees. The northward migration was clearly in full swing. There was no sign on this occasion of one sex moving ahead of the other.

In the second half of April only an occasional Black Redstart was seen, the latest record being 22nd April.

BLUETHROAT

Cyanosylvia svecica

The Bluethroat is a plentiful winter visitor to Delhi arriving about the middle of September. In the three years 1943-1945 my earliest records were 10th, 17th and 20th September respectively and all were from the same locality near the River Jumna.

The Bluethroats were widely distributed over the area, but were more numerous in the riverain country than elsewhere. They showed a preference for damp situations such as the edges of jheels and swamps although, on one or two occasions, they were met in dry though coarse vegetation. Good cover is essential to the Bluethroat and it is seldom far from a reed-bed or thicket into which it can retreat. A haunt which remains damp will probably be occupied the whole winter but there is some shifting of quarters when haunts dry up or, alternatively, the rain makes fresh pools

and wet areas. Crops such as millet and sugar-cane are frequented and when the corn is tall in February they will collect there.

In March the birds increased very noticeably in some places. Cornfields, especially those near water, were very popular. Their ticking calls could be heard as you walked past and, now and again, one would get up. At this time they were very plentiful, too, in reed-beds and *erianthus* clumps. Either the local birds were collecting or others were coming through from the south. The latter seemed the more probable since Bluethroats were met in places where they had not been seen before. Thus several appeared in two successive years, 1944 and 1945, in March in a bed of sweet peas in a nursery garden where none of the species had been noticed before. There were Bluethroats in this bed in 1944 up to 15th April : the latest record for that year was 23rd April. The following year they were in the bed till the 3rd May and the latest record for Delhi was 6th May.

Most of the Bluethroats probably went north during the second half of April, perhaps in the third week of that month.

As a general rule the Bluethroat is a shy bird and quickly retreats into cover. However it often emerges again very soon. Now and again birds are met which are not at all shy. It is usually found on the ground but is sometimes in a bush or on a rush. On the ground the tail is often carried cocked and is raised and lowered : the bird's poise is alert and its carriage erect. The light stripe over the eye is usually seen, but the blue throat may not be noticed as the bird is often facing away from the observer. A fair proportion, first year birds, show little or no blue on the throat. In flight the expanded tail—light tawney with the end black—catches the eye. The only call heard was a clucking '*tac-tac*.'

* COMMON RUBYTHROAT

Calliope calliope

Two or three records : probably a scarce visitor on passage.

INDIAN ROBIN

Saxicoloides fulicata

The Indian Robin is a resident species, plentiful and generally distributed. The birds were in pairs from the beginning of January. All through that month males were seen displaying and heard singing. On the 2nd a couple were facing one another on a piece of old masonry. The male is puffed out and has his tail well cocked. He is pivoting. On another occasion a male is singing in a bush. He looks remarkably handsome in the sunlight with his deep glossy blue under parts and white wing patch. His wings are being jerked and his tail well cocked showing the striking patch of orange-red below. The upper parts are rich brown. On the wall nearby are two other males. Then a female appears near the singing bird. Sometimes two males will face one another on opposite twigs. Each draws himself up to his full height showing his rufous belly. Presently one admits defeat, turns round and flies off.

Singing increased in February and was more sustained, and March was another month of song. The male Robins sang from elevated perches.

In April I saw a pair building. Nesting was in full swing in May. The nestlings, newly hatched tiny black chicks were first seen on 16th May. Chicks were feathered when about eight days old and looked like Robins then. They left the nest at about 11 days. From the laying of the first egg to the time the young leave the nest was 28 days. The fledglings are dark brown above, with stumpy blackish tails and yellow gapes. Two broods are reared. One pair which was building the first nest on 21st April, the young leaving on 25th May was feeding a second brood 27 days after the first brood had flown. Both sexes help with the feeding, but the nest appeared to be built by the female alone.

MAGPIE-ROBIN

Copsychus saularis

The Magpie-Robins are winter visitors : they are not very

numerous. They are typically birds of the shrubberies and shady groves. Individuals seem to settle into a particular haunt directly they arrive and remain there throughout their stay. Delhi gardens probably hold most of the Magpie-Robins, but almost any shady grove is a possible haunt and indigenous woodland is sometimes frequented.

One usually comes on the Magpie-Robin on the ground or on a low perch but I have seen it on the top of a tamarind tree. It will never be far from cover and usually disappears into this.

August 6th was the earliest date on which a Magpie-Robin was seen. Only a glimpse of the bird was caught on this occasion, but the place was one which had been occupied the previous season. Most of the Magpie-Robins come probably in September. They leave at the end of March and beginning of April.

Only once was any song heard : it was merely an attempt, a very weak effort on 24th January by a bird on a low wall and it was accompanied by jerkings of the tail. Another call—soft but rather grating—came from a bird in a thicket.

The white wing-bar and white outer tail feathers will usually enable the Magpie-Robin to be recognized at a glance.

* Subsequent observations indicate that a few Magpie-Robins are permanent residents, breeding in Delhi gardens and other suitable localities.

* BLACK-THROATED THRUSH

Turdus atrogularis

A winter migrant, occurring in some numbers near the river in some seasons, but entirely absent in other years. In 1953 they were present from January till March 25th, when one was still feeding in the top of a fruiting tree in Qudsia Park, Old Delhi.

* TICKELL'S THRUSH

Turdus unicolor

Has been observed in New Delhi gardens in winter.

*** ORANGE-HEADED GROUND-THRUSH***Geokichla citrina*

Identified in New Delhi gardens in winter. Possibly of annual occurrence. This handsome bird is a great skulker, and is only likely to be seen in the open in early morning and at dusk.

*** BLUE-HEADED ROCK-THRUSH***Monticola cinclorhyncha*

One seen by several observers in Rajpur Road, Delhi ; a passage migrant.

BLUE ROCK-THRUSH*Monticola solitaria*

This bird is a winter visitor occurring in small numbers. It haunts ruins almost exclusively. There were several Blue Rock-Thrushes in the ruined city of Tughlakabad, but in smaller ruins there would probably be only one. My records, which were very many, indicated that it reaches Delhi towards the end of October and leaves in April. In three successive years, 1943-1945, the bird was first seen on 31st October, 22nd October and 3rd November respectively : all of these occurrences were at Humayun's Tomb. The latest date, also at the same place, was 29th April.

The rather slender build and upright poise of the Blue Rock-Thrush, coupled with the noticeably large bill provide a ready clue to its identity even if the plumage cannot be noted.

RED-BREASTED FLYCATCHER*Siphia parva*

The Red-breasted Flycatchers are winter visitors arriving about the second week in October and leaving in April. They haunt shady places and are to be found, usually singly, although there may be others in the vicinity, in woodlands, amongst trees in park-

land and gardens and also by the roadside. These Flycatchers are restless little birds, always on the move from tree to tree and from twig to twig, making little sallies and rarely returning to the same perch. Often they perch on the lower branches of a tree and from there drop down to the ground and then fly up again.

Towards the end of March there was a noticeable increase in numbers due presumably to the passage of birds from further south. I got the impression that the sexes travelled separately to some extent at any rate, and that the majority of the females moved later than the males. In April out of 42 records of the Red-breasted Flycatcher, four were identified as males, 23 as females and 15 were not distinguished. No male was seen for certain after 4th April. All of the birds had left by the middle of that month.

On the ground, and when perched, the Red-breasted Flycatcher carries its wings drooped so that the points are almost level with the feet and the tail is flicked up and down. This characteristic poise is a good guide to the bird's identity. Through glasses it is seen to be a brown bird with a conspicuous black eye. Sometimes when the tail is flicked and always in flight the white on the outer tail feathers catches the eye. There is a white ring round the eye. The male Flycatcher has the throat and breast reddish.

* VERDITER FLYCATCHER

Eumyias thalassina

An occasional visitor on passage.

GREY-HEADED FLYCATCHER

Culicicapa ceylonensis

This Flycatcher was not seen often enough to be sure of its status. It is perhaps only a scarce and wandering winter visitor. I saw it in two successive Februarys, a couple on the 20th in 1944 and next year a single bird on the 4th, 11th and 18th, always in practically the same spot and presumably the same bird. My other records were on 15th October when I saw three of the birds one

afternoon, singly in a belt of woodland and on 26th November, one bird in a large babool.

The Grey-headed Flycatcher keeps very much to the tree-tops and is constantly on the move.

* Subsequent observation shows that the Grey-headed Flycatcher is a winter visitor to Delhi, in small but variable numbers. It has the habit of dropping on to its insect prey through the branches of other trees, and in fact often haunts the lower branches of trees, also fences and other low perches.

BROWN FLYCATCHER

Muscicapa latirostris

A single bird in a garden on 1st July was the only record of the Brown Flycatcher.

PARADISE FLYCATCHER

Tchitrea paradisi

Most of the Paradise Flycatchers seen in Delhi are on passage, only a small proportion stop. The birds begin to arrive at the end of March—the 30th was the earliest record—and the movement continues during the first half of April. The first birds seen, in both 1944 and 1945, were males. It was not till about 10 days later that a female was noticed. Both white-tailed and brown-tailed males were seen, also one which looked intermediate—the outer edge of the basal third of the tail was white, also the underside but the remainder was chestnut. Nearly all these early birds were in woods and other places which were subsequently vacated and remained unoccupied during the summer.

Breeding territories were taken up towards the end of April ; and in June the Flycatchers were sitting. In one garden there were two pairs nesting within a hundred yards of each other. One male was white-tailed and the other brown-tailed. There seemed to be a certain amount of squabbling between the two couples. Both nests were in *Eugenia jambolana* trees, slung from some drooping twigs and about 15 feet from the ground and, in each case, there

was a King-Crow's nest close by. The nests were deep cups and were made of some grey-white material and decorated with cocoons. Neither was at all concealed. Both sexes shared in the incubation, but the female seemed to do more than the male. She sat well up in the nest with her black head showing and her tail projecting horizontally. At times she sat with her mouth open showing the yellow inside. Both these nests were deserted. Second nests were built near the first ones and the young hatched but not reared : both were robbed. In the following year (1945) a brown-tailed male and a female were seen in the same garden during April but then left and made no attempt to nest there.

Early in August Paradise Flycatchers appeared in places which they had not frequented during the nesting season. This may have indicated a dispersal of families from the breeding territories or the arrival of fresh birds from further north. There was no evidence that the sexes travelled separately. A white-tailed male was seen on 6th August and a brown-tailed male on 30th September. Most of the birds had short brown tails and were presumably either females or juveniles. One bird seen on 10th September had a short white tail. The latest record—15th October—was a female or juvenile but this was probably unusually late : most of these Flycatchers had gone by the end of the first week in that month.

WHITE-BROWED FANTAIL-FLYCATCHER

Leucocirca aureola

This is the most confiding of the Delhi Flycatchers. It will alight beside an observer, perch quite close to him, swoop at insects he disturbs and even accompany him a short distance keeping within a yard or two and frequently alighting almost at his feet. I have had it fly so close as almost to brush me with its wings.

The White-browed Fantail-Flycatcher is typically a bird of woodlands or well timbered parkland. It is usually met singly or in couples and is probably more or less sedentary, although at times individuals wander far afield. It is arboreal and very restless. The tumbling descents it makes through the branches after some insect, followed by a steep upward return flight are very characteristic.

Even more so is this Flycatcher's habit of pirouetting and at the same time fanning its tail. It does this when perched on a branch and when it alights on the ground or on a boulder in the streams it sometimes haunts. The pirouetting is the same motion it uses to smooth and shape the inside of its nest ; it is a more or less semi-circular movement of the body with the feet fixed.

On 6th February a couple of these Flycatchers were noticed in what may have been a mating chase. Back and forth the two flew, in and out among the trees, with now and again a short squeaky call from one of them. The first nest was found on 12th April. It had just been begun : there was little more than a few bindings of grass on the top of a twig. Both birds were at work. They were collecting grass from a tuft not far from the nesting tree. A bird would pull out a length of grass and fly with it in a somewhat twisting flight to the nest where a few moments would be spent working the material into position. Whilst still on the nest a bird would sometimes sing a brief refrain. On leaving the nest the bird would fly to a tree some 30 yards away, flit about for a moment or two fanning its tail and then drop down for more grass. Two days later the nest was a neat whitish cup perched on a horizontal twig. On the 16th it looked almost complete. The birds appeared to be giving the finishing touches, smoothing the outside by trowelling it as it were with their bills. If any material was being brought to the nest it could only have been some fine thread. A bird would arrive, work round the outside with its bill and perhaps smooth the edge a little or shape it with its body using the characteristic pirouetting motion.

The Flycatcher's nest looks small for the bird. When the latter is sitting it looks very much perched on top. The height of the cup looks rather more than the diameter. One nest which I found was within a few feet of a King-Crow's nest in an adjoining tree. Another had a Red-vented Bulbul's nest not two feet away on a neighbouring branch. During incubation the mate of the sitting bird is likely to be perched close by.

The White-browed Fantail-Flycatcher is not likely to be confused with any other species. Its pirouetting and tail fanning habits are enough in themselves for recognition at a glance.

GREAT GREY SHRIKE

Lanius excubitor

This is the most open loving of the Shrikes. It is also the most sedentary. The open country near the river—cultivation and waste land—sparsely dotted with small babool trees was its favourite haunt. It also occurred in drier areas and in the stone strewn country, but never in woodland. Individuals, or it may be pairs, keep to their particular territory and may be found in it almost with certainty throughout the year. A bird will usually be seen on some vantage point, not necessarily a high one, but overlooking a stretch of the surrounding country. Small babool trees, low mounds and rush stems are used as perches, also the telegraph wire, and I have seen a bird settle on an ox-cart which had pulled up for a moment. As a rule the Great Grey Shrike is a silent bird but once, in November, one on the top of a bush was uttering a repeated and rather shrill 'eep-eep-eep.'

It is possible that pairs keep in touch with one another throughout the year, but they certainly were in evidence as such in February and, on the 4th of that month, one bird flew up to another with squeaks and appeared to offer it food. Nesting was in full swing in March. Every nest I found was in a babool tree. The nest is a deep cup of thorny twigs lined and padded with wool and bits of rag and usually decorated too with pieces of wool on the outside. The birds are not usually very demonstrative. When there are eggs, the sitting bird will probably slip off quietly, fly to a neighbouring tree and call 'twee-tik.' Even when there are young, the parents are not very demonstrative though they may fly up to the tree. A nest containing eggs on 11th March had well feathered youngsters on 7th April: they crouched in the bottom of the nest and were perhaps about ten days old. There was a very noticeable uniformity in the nesting of the Great Grey Shrikes—every pair seemed to start at almost the same time.

Pale grey, white and black are the colours of this Shrike, and there are no other Shrikes with which it can be confused. It has the typical flight of the Shrike—low, with fast wing beats—and looks pale grey and black.

RUFIOUS-BACKED SHRIKE

Lanius schach

This Shrike is resident, but is not numerous. It frequents reed-beds and areas of thin thorn, the latter preferably perhaps, and individuals seem to remain in the territories they have taken up and to use favourite vantage points there for considerable periods. A slight concentration for nesting was noticed. For example, four pairs came into a strip of babool about a mile long, and mating apparently took place towards the end of March and in April.

Song was heard from the end of January to April, usually from a bird perched on the edge of a thicket and often with a second bird, perhaps its mate, nearby. The song is not very loud : it begins squeakily but becomes pleasant with little trills, a sort of chatter and a variety of notes and calls.

Nesting is in June. Babool trees are favourite sites, the nest being placed 15-20 feet up in a fork or at the end of a cut limb. It is a fairly substantial, rather loosely built cup of grass, considerably larger than that of *L. vittatus* and sometimes showing a certain amount of wool. When one bird is sitting, its mate is not likely to be far away : sometimes it will be in the same tree as the nest. It is not demonstrative when disturbed. By August nesting is nearly over : family parties were met in the middle of that month.

The Rufous-backed Shrike feeds in typical Shrike fashion by diving from its vantage point to the ground where it seizes its prey in its bill and brings it back to eat on its perch. Once I saw a bird digging in the grass, and presently it flew up carrying what looked like a mole cricket.

Characteristics of this Shrike are the rich rufous back, the gleam of which catches the eye as the bird flies down to the ground, and the tawny flanks. Fledglings have the primaries dark and the tail light. You can tell a Shrike on the telegraph wire a long way off by the rakish, not cocked, angle of its tail.

* GREY-BACKED SHRIKE

Lanius s. tephronotus

This race has been noted on two or three occasions in winter. It has much more grey on the back and less rufous.

BAY-BACKED SHRIKE

Lanius vittatus

In September the Bay-backed Shrikes disperse from their breeding territories. The move is not an evacuation but a scattering. Areas where the birds have been nesting are not abandoned but are occupied by fewer individuals. Where, for instance, there had been six nesting pairs, only one or possibly two Shrikes were left. These latter remained more or less stationary in their quarters throughout the winter.

The return to the breeding territories begins about the end of January. Birds were noticed then singing in spots where there had been nests the previous summer. By March many, perhaps most, of the breeding territories were occupied ; singing was general and the birds were commonly met in pairs. In April nesting was general.

The nest of the Bay-backed Shrike is a typical Shrike structure, deeply cupped and usually liberally "decorated" with wool. It is easily found once one knows the sort of situation chosen and looks out for the wool. A very favourite site was on a substantial branch of a babool. Frequently the nest would be within a few yards of the position occupied the previous season. Some youngsters were out of the nest before the end of April, and in May both nestlings and fledglings were common. When there are young, either in the nest or out of it, the scolding of the adults almost invariably discloses the fact. On an intruder's approach, one or both of the parents will fly up and perch, usually quite close, to squawk and twist their tails.

The youngsters remain with, and are fed by, their parents for quite three weeks after leaving the nest. In one case the fledglings, which were between 18 and 21 days old when they left the nest,

spent the next six days or so within about ten yards, keeping more or less stationary in a small thorn tree to which their parents came with food. Then they began to wander further afield during the day, but for another 12 days at least, came back in the evening to roost in or near their nesting tree. One evening when these fledglings were just under five weeks old, two of them were in the nesting tree when one of the adults alighted with a grasshopper in the next tree. Both youngsters flew across to it, but the old bird proceeded to eat the grasshopper apparently ignoring the young birds, one of which had come close alongside and was waiting with quivering wings and wide open mouth. At length the young bird starts to peck at the grasshopper which its parent is holding against the branch with its foot. For a while the adult goes on eating, then it picks up in its bill what remains of the food and passes it to the fledgling which takes it and swallows it. The second youngster which was perched just below got nothing. Next morning this was repeated. The adult eats until the youngster has a peck, upon which the food is surrendered to it.

Fledglings were common in June and towards the end of this month second nests were started. These were often quite near the first one, and once or twice I thought some of the material from the first nest—a white feather in one case—was used in the second. Some of the youngsters from the first brood were still about when work on the second nest was in progress, but I did not see them being fed at this stage. Adults were seen with fledglings once or twice in September, but by this time most of the young birds were able to fend for themselves.

Insects probably form the main food of the Bay-backed Shrike, but the small frogs which swarm about the edges of ponds and jheels after the monsoon are eaten as well. A frog was the only food I saw impaled : it had been on the thorn some time when I saw it and was half dry, so the Shrike which was pecking at it had perhaps come back to its larder for a meal.

The Bay-backed Shrike is not likely to be confused with any other Shrike except *L. schach*. The colour of the mantle—deep red-brown in the Bay-backed Shrike and pearl-grey in the other—is a good distinguishing feature. And the rump is white in *L. vittatus*

and bright rufous in *L. schach*.

* Another important distinction is the white patch in the wing of *L. vittatus*. This is absent in *L. schach*.

Fledglings have the breast and much of the upper plumage marked with crescent shaped marks : the dark line through the eye is not very definite and the mouth is reddish. Within a day or so of leaving the nest a fledgling will twist its stumpy tail.

BROWN SHRIKE

Lanius cristatus

This Shrike, which is a winter visitor, occurring between September and March, is the least numerous of all the Shrikes except *L. isabellinus*. Only small numbers winter in Delhi and the bird was always seen singly. It was usually near water, and rushes and reeds on the edges of jheels were favourite perching places. From its vantage point it makes short sallies to the ground but does not, as a rule, return to its starting point. Its flight is low and twisting.

The Brown Shrike is to be recognized by its sober plumage. It lacks the greys, blacks and rich rufous of the other Shrikes : only its tail is rufous.

PALE BROWN SHRIKE

Lanius isabellinus

This Shrike was seen only once, a single bird on 3rd March perched on a bush by a jheel.

* *L. cristatus* and *L. isabellinus* are extremely similar birds. Recent observations have not confirmed the presence of *L. cristatus* in the Delhi district. *L. isabellinus* is not uncommon in winter, but is very local, usually occurring in open grassy country near water.

COMMON WOOD-SHRIKE

Tephrodornis pondicerianus

The Common Wood-Shrike occurs in small numbers wherever there are trees. Except in the breeding season it is met singly, in

couples, and in small parties of three or four. It is a usual member of the woodland hunting bands. In one of these which included two Tailor-birds and a Red-vented Bulbul there were five Wood-Shrikes : the birds were in some leafy *butea* trees and were also flying down to the green corn below. Another hunting party consisted of three Wood-Shrikes, a Fantail-Flycatcher, a Little Minivet and a Whitethroat.

The Wood-Shrike is an inconspicuous grey bird which does not catch the eye unless one is near. Then the pale yellow eye-stripe contrasting with dark lores and patch behind the eye and in flight the white outer tail feathers are noticeable. The Wood-Shrike seems to be always peering about : it has a habit too of dropping down through the foliage to a lower level. The bird's call is a pleasant 'tswee-tee-dee-dee.' When it finds a caterpillar or other prey it usually holds one end in its bill and hammers the other against a branch.

Nesting is in April and May. A family party of three fledglings was seen with the two parents on 26th May. The youngsters have the crown light and rather streaked, mantle and wing-coverts with light spots, black through eye, and dark tail with white outer edge. They sit about with half opened wings uttering a rather faint repeated 'pee-ip'. When the parent arrives the wings are quivered and the food taken.

SHORT-BILLED MINIVET

Pericrocotus brevirostris

The Short-billed Minivet is apparently a winter visitor. It was met from November to April, not in any numbers but as wandering bands, small parties and individuals which may have been members of a scattered band. The largest band seen numbered about a dozen.

The first band I saw was 12 strong—three males and nine females. They showed too much scarlet to be *P. peregrinus*. The band paused for a moment in the top of a babool and then made for a gum grove. Amongst the leaves at the top of a tall tree the birds seldom allow more than a glimpse of themselves. They are long tailed birds, longer tailed than *P. peregrinus*. The flash of scarlet as the birds

fly up catches the eye. If a better look is obtained the male will be seen to have a black head and a lot of scarlet on the wings : it is a larger bird than *P. peregrinus*. The female shows a noticeable yellow wing-bar in flight.

The Short-billed Minivets haunt tall tree-tops such as the *jambolana*, shisham and tamarind. Their flight is very bouncing and they are seldom still for long.

* ROSY MINIVET

Pericrocotus roseus

One record of birds seen near the Horseshoe Jheel.

LITTLE MINIVET

Pericrocotus peregrinus

The Little Minivet is a resident species met in small and sometimes rather scattered parties. Half a dozen or so is the usual strength of a party, but once I saw a band numbering 16 bouncing from neem-top to neem-top alongside a road. They are typically birds of the tree-tops, although they will occasionally drop from a tree into the thicket or herbage below. They nearly always alight right on the top of a tree, and this habit coupled with their bouncing flight and their long tails is a good clue to their identity. Amongst the foliage they are very active. At times a bird will hover in front of a twig, pick off an insect and take this to a perch to be hammered and eaten. A little upward flutter which the Little Minivet often makes is characteristic.

Parties are continually on the move and did not appear to keep to any particular area for long. They are often with the mixed hunting parties which work through the woodlands. Nesting begins in March. On the 11th a pair had just begun to build in a small babool. The nest was about 12 feet up on a branch. Both birds were flying to it. A week later the nest looked complete. On the 25th the female was on the nest : the male flew up and perched alongside for a moment.

The male Little Minivet has a grey head, black face and red on the breast and wing.

WHITE-BELLIED MINIVET

Pericrocotus erythropygius

This species is not numerous and is very wandering. It is possibly a resident although my records were only in the winter, between December and March. It is not a bird of woodlands and tree-tops but haunts areas of thin babool and cultivation where it is met in small parties, usually three or four birds. They keep on the move. I have seen them flying from one babool to another and working across a field of mustard sometimes hovering over the plants, perching on a stem or fluttering in front of a flowering head, but always moving on. In a bush or tree it will make short flights from twig to twig to pick off an insect. Between trees its flight is very bouncing and Wagtail-like.

The White-bellied Minivet is a black and white bird showing a scarlet rump as it flies off. The male has a black head and a little pink flush on the breast. Sometimes the red on the female may not be noticeable until the bird hovers when the red rump shows.

* In recent years, perhaps owing to the destruction of trees in the neighbourhood of Delhi, the White-bellied Minivet seems to have become very scarce.

* LARGE CUCKOO-SHRIKE

Graucalus javensis

Some doubtful records.

* ASHY SWALLOW-SHRIKE

Artamus fuscus

Two recent records by Lav Kumar.

KING-CROW

Dicrurus macrocercus

The King-Crow is a common Delhi resident and is met singly, in small parties, and in larger gatherings. Almost any type of country is frequented, but preferably the more open terrain with commanding perches, and least liked are the stone strewn areas. The King-Crow hawks from commanding, but not necessarily high vantage points, sometimes seeming to spend the greater part of the day in a favourite pitch. One King-Crow — I assumed it was the same one each time — was found day after day from before sunrise till dusk on a low chain, only a foot or so above the ground, which ringed a New Delhi roundabout and it must have roosted there or close by.

Telegraph lines across open country offer obvious vantage points from which to hawk and, where they run by some place where insect life is plentiful, the King-Crows will often congregate on them, with perhaps as many as a dozen birds to a single bay. Grazing cattle whose movements disturb insects on the ground, also cause gatherings of King-Crows which will here be found on the ground very often keeping company with Bank Mynahs, Starlings, Yellow Wagtails and other species. If there is any eminence however slight, an upturned clod for instance, a King-Crow will post himself on it. Only once did I see a bird on one of the beasts ; on the back of a buffalo calf. King-Crows will quite commonly join with Common Mynahs in hunting insects on the ground and, here again, they are profiting from the disturbance to the insect life caused by their companions' movements. The largest gathering of King-Crows that I met numbered about 30 : the birds were on the ground on the edge of a flooded field. Birds which have gathered to feed will sometimes fly off together, a fact which suggests that the prevalence of food is not the only factor in the King-Crow's tendency to gregariousness.

Some of the King-Crows — whether the majority or only a small proportion was not determined — roost gregariously. This became noticeable in September after the breeding season. One of these roosts — a bamboo clump in a garden — was occupied regularly

on at least two successive years. Several Little Brown Doves and a party of Large Grey Babblers used it too. The King-Crows began arriving at the clump a good half hour before they actually settled to rest. They flew up singly and in twos and threes and settled on some tall upstanding bamboos in the clump. There they sat, perhaps three or four to a stem, but sometimes as many as eight preening or resting whilst the party built up. For the most part their only call at this time was a little '*tseep*' but now and again the characteristic '*its-zibeeb*' or '*her-tzibeeb*' was heard. By this time the Little Brown Doves had flown into the body of the clump and so had the Babblers who could be heard working up inside to their roosting places, but there was no general move by the King-Crows. Now and again one of them would make a short upward flight, turn and sail down, in a few cases going into the clump at the end of the downward dive but more usually swooping up to its place on the stem again. Then, just before sunset, the King-Crows peeled off the bamboos one by one and dived down into the clump. There were 16 to 18 at least in the roost and one or two more which were still about the garden may have come in later.

By mid-April most of the King-Crows were paired, although there was some still without mates in May. The first nest found was on 30th May. A very favourite site is a horizontal fork, usually at some height — 25 to 60 feet — but occasionally as low as 15 feet. The nest is not concealed as a rule. It is a deepish cup, apparently of grass, flimsily built and from below looking as if it had a hole in the bottom. When the bird is sitting its projecting black tail is what catches the eye. Very often other birds build their nests in close proximity to that of the King-Crow. In one case noticed it was a Red-vented Bulbul, in another a Paradise Flycatcher and in a third an Oriole, and a pair of King-Crows nesting in a large pink *cassia* still in bloom had two pairs of Green Pigeons sitting on eggs in the same tree. Possibly the aggressiveness of the King-Crow gives a measure of protection. I saw a Shikra swoop at a Partridge chick close to a tree where a pair of King-Crows had built. Both dived at the Shikra and the chick escaped untouched.

The aggressiveness of the King-Crow is not confined to the nesting season. The bird joins with Crows and Buleuls in mobbing Owls.

By itself it will chase Kites, Tree-Pies, and other birds. I have seen it make persistent dives at an Eagle in a tree-top and when the latter flew off, follow in pursuit. The White-eyed Buzzard flying low over the fields is often chased by King-Crows and I saw two of them fly first at a Black-winged Kite on a telegraph wire and then at a Bee-Eater.

Nesting was finished in August although adults with fledglings were still about then. The young King-Crow has a very grey belly and a white spot at the end of the gape : its tail is short and unforked.

The King-Crow's wheezy call—'its-zibeeb' or 'het-tzibeeb' is one of the first calls of the day. It is heard with the cries of the Spotted Owlet, the Koel and the Hawk-Cuckoo.

* ASHY DRONGO

Dicrurus longicaudatus

One identified as a passage migrant in spring : it may occur in small numbers annually.

WHITE-BELLIED DRONGO

Dicrurus caerulescens

This bird appears to be a scarce passage migrant. I saw it on only three occasions, twice in 1944 on the 19th and 26th March and possibly the same bird, since both records were in much the same place on the western edge of the Lodi Golf Links, and once in 1945 on 25th March at Okhla. Each time this Drongo was seen it was perched in a tree from which it was diving down almost vertically to just above the ground and then rising up again to another perch.

The White-bellied Drongo shows a glimpse of white as it flies by, and this serves to distinguish it from *D. macrocerus*.

* LARGE RACKET-TAILED DRONGO

Dissemurus paradiseus

One doubtful record in February.

INDIAN GREAT REED-WARBLER

Acrocephalus stentoreus

The Great Reed-Warbler was neither seen nor heard from June to September : in May and October it was noticed more frequently than at any other period and in addition was met elsewhere than in the reed-beds it normally haunted. This suggests that the bird is a winter resident and that others of the species pass through on the spring and autumn migrations.

The birds which are found in winter in the Delhi area were not numerous. They seemed to take up quarters in certain reed-fringed ponds—one at about mile 9 on the Delhi-Mathura road was an example—and to remain there throughout their stay. They are heard far more often than they are seen. The call is harsh and rattling ; it is uttered vigorously. Sometimes you see a Reed-Warbler near the top of a reed or flying across a pool, but more often it will be clinging to the bottom of the reeds and, for the most part, keeps well in from the edge of the reed-bed.

Its large size—for a Reed-Warbler—and large bill help to identify it. The upper parts are more or less uniformly grey-brown and the under parts are whitish : there is a light yellowish eye-streak but it is not very marked or very long. In flight the rump looks light. If you see a bird singing, the coral-red inside of the mouth may be noticed.

In October when there were Great Reed-Warblers passing through, the birds were often heard in sugar-cane patches by flooded fields. Individuals were met at this season in tamarisks and other bushes close to water.

* As a rule few or none seem to stay in the Delhi district through the winter.

BLYTH'S REED-WARBLER

Acrocephalus dumetorum

In two successive years I thought I saw one of these Warblers in the Aliganj Nursery garden in April. It may be a passage migrant.

* This is a regular passage migrant in April and May, appearing in gardens and scrub ; sometimes they may be heard uttering a feeble song. In autumn they seem to be less numerous.

* PADDY-FIELD WARBLER

Acrocephalus agricola

A regular passage migrant in small numbers in cover by water.

* GRASSHOPPER-WARBLER

Locustella naevia

Twice observed in April, once in August.

TAILOR-BIRD

Orthotomus sutorius

The Tailor-bird did not seem a numerous species, but it is a bird which could easily be overlooked. It is usually met singly but sometimes in small parties of three or four in woodlands and gardens amongst bushes and low herbage. One or two will often be members of a woodland hunting party, generally working amongst foliage near the ground. I saw one with four Purple Sunbirds and a White-cheeked Bulbul chattering at a Scops-Owl.

The Tailor-bird has several calls—a two-syllabled ‘give-it—give-it’ or ‘tu-wheet—tu-wheet’ often used by a bird busy in a thicket ; a rather plaintive ‘tseep-tseep’ and the easily recognized ‘pitchu-pitchu’ or ‘pitch-up—pitch-up.’

Canting, coupled squabbles and fights between male birds, began in March. One form of display consisted in turning the body from side to side, showing a black mark on each side of the breast and calling ‘tsee-ep’ repeatedly. Birds in full plumage with long tail and bright rufous crown were noticed from April to September but, in the latter month, short-tailed birds and birds without the rufous crown are met.

FANTAIL-WARBLER

Cisticola juncidis

The Fantail-Warbler haunts open country where there is long grass, and is plentiful in suitable localities. It is a resident species nesting in March and April. The first nest found was on 18th March : it was newly begun and at this stage consisted only of a delicate woven mat of grass and down in a clump of coarse grass.

The Fantail-Warbler has a characteristic flight. It mounts in the air in a rather bouncing jerky fashion calling 'tik-tik-tik', then it dives down either to settle in the grass and creep about there or mount again and repeat the operation. In flight the back looks rather rufous.

RUFIOUS-FRONTED WREN-WARBLER

Franklinia buchanani

The waste lands and rock strewn country are the haunts of this Warbler and it is fairly plentiful in these areas. It is usually met in small parties of half a dozen or so on or close to the ground. Singing was noticed in February—a repeated 'tippit-tippit-tippit' from the top of a bush.

Only one nest was found and that too not certain : it was on 24th June ; was 2 feet 6 inches up in a caper, a nest of grass and down, with the entrance at one side. There were no eggs but as some Rufous-fronted Wren-Warblers had been seen near the spot it seemed a reasonable assumption that the nest belonged to them.

The white dots at the end of the expanded tail or the white tip to the closed tail are recognition features to look for. The wings are rather dark brown, the crown is rufous and the eye reddish.

FRANKLIN'S WREN-WARBLER

Franklinia gracilis

This Wren-Warbler frequents woods and parkland. It did not seem to be a very numerous species. There is little difficulty in identifying

them in winter if you know their distinguishing marks. Summer dress is put on in May : the first record of a bird in full summer dress was 14th May. In this dress the very white under parts and the grey breast band are sure means of recognition. The sexes are alike. The winter plumage is assumed after September.

The nesting season probably extends from June to August. Males were singing and squabbling all through May. Fledglings were first seen on 27th July : these had only just left the nest. They were still with their parents on 7th August but were more active : instead of sitting still and waiting for the arrival of their parents with food they moved from bush to bush whilst the parents hunted for food in the grass below. In August family parties of the two adults with two or three fledglings were often met. The youngsters had no grey on the breast.

At times this Warbler will indulge in most buoyant bouncing flight, dipping almost to the ground, then up again in a practically vertical rise. Birds will also make downward swoops from a tree, dip once or twice over the herbage and then fly up to a fresh perch.

MOUSTACHED SEDGE-WARBLER

Luscinola melanopogon

This Sedge-Warbler was not, I thought, numerous. It haunts reed-bordered swamps and ponds, keeping among the reeds and mostly out of sight. Now and again a bird will come into view as it works its way to the outer edge of the reeds or even for a moment or so onto a nearby piece of floating vegetation. It is an alert looking bird and is seldom still. It seems to spend a lot of time on the bottoms of the reeds and will cling to a stem and pick things off the water.

It carries its tail cocked and utters a call '*tchik-tchik*.' It has a noticeable white eyebrow. My latest record was in mid-May.

BOOTED WARBLER

Hippolais caligata

This inconspicuous bird may have been more numerous than

it seemed to be. I thought it was resident in small numbers in woodlands and gardens. It is brown above, lightish below and has a whitish eye-stripe. It utters a quiet but persistent 'tik-tik.'

* Recent observation indicates that it is a not uncommon passage migrant; chiefly in April and in August-September.

* LONG-TAILED GRASS WARBLER

Laticilla brunesi

Once identified at the 9th mile marsh, Mathura road.

ORPHEAN WARBLER

Sylvia hortensis

This Warbler is a scarce winter visitor between November and April. I met it only on seven occasions—9th January and 9th April in 1944; 11th and 18th February, 4th and 18th March and 4th November in 1945. Like the Lesser Whitethroat it is very partial to babool plantations: only one of my records was in another type of vegetation—the bird of 9th April was searching a caper bush. All the records were in light woodland, in or near the riverain belt.

The Orphean Warbler searches a babool rather deliberately compared with the activity of the Lesser Whitethroat. I have seen it find and eat a large fawny caterpillar and also a green grasshopper: the former, held at one end, was carried to an old Dove's nest where it was hammered to and fro and finally swallowed.

At first glance the Orphean Warbler appears rather like a Lesser Whitethroat, but there are several noticeable differences. The former has a black crown (light grey in the female) and all white under parts, the throat looking very white. The upper parts are greyish with the mantle rather fawn perhaps. Sometimes the white eye-ring can be made out. The bill is noticeably large. In flight white shows on the sides of the tail.

LESSER WHITETHROAT

Sylvia curruca

The Lesser Whitethroat is a fairly plentiful winter visitor,

particularly in indigenous woodlands. Except on its arrival it is nearly always met singly. Sometimes, but not often, it will join a mixed hunting party. Its favourite haunts are the smaller babool trees and thicket bushes. It was seen in the shisham, *Salvadora persica*, *Capparis aphylla* and tamarisk. One bird which had been dipping its head into *capparis* flowers had its forehead yellow with pollen : so did another, but in this case from babool blossoms.

First occurrences of the Lesser Whitethroat in 1944 and 1945 were 24th and 23rd September respectively. My latest record was 15th April. In the course of a day's walk I have met as many as nine of the birds. They often utter a quiet 'tchik-tchik' or 'tac-tac' whilst searching a bush. This call, together with the grey head and white outer tail feathers, are means of recognizing the species.

* HUME'S LESSER WHITETHROAT

Sylvia althæa

Amongst the numerous Lesser Whitethroats occurring round Delhi in the winter, some look small and dull-coloured—the back and wings being grey-brown rather than warm-brown. These are presumably Hume's Lesser Whitethroats. They are chiefly to be seen on the spring migration in March.

CHIFFCHAFF

Phylloscopus collybita

Chiffchaffs are winter visitors arriving probably at the end of September and in October and leaving in April. They are quite plentiful locally. Their favourite haunts are low bushes, such as tamarisk, or babool not far from water. Bushes on river and canal banks and by pools are popular. Chiffchaffs are often in reed-beds in some numbers.

* All those occurring at Delhi are Siberian Chiffchaffs.

Sometimes they are found in trees and occasionally in crops such as mustard. I have seen them, too, on water hyacinths in a canal, alighting on the plants with a considerable amount of fluttering.

Chiffchaffs are met singly and in parties. They are active little green-brown birds and show no olive hue.

*** PLAIN WILLOW-WARBLER***Phylloscopus neglectus*

This species, shorter in the tail than the Chiffchaff, and uttering a distinctive call-note, has been identified two or three times in late winter and spring.

GREYISH WILLOW-WARBLER*Phylloscopus griseolus*

This species, usually found on or near the ground is a passage migrant in small numbers, chiefly in March. It has also been seen in mid-winter at Tughlakabad. Its upper plumage is grey, under parts oily-yellow, legs buff or orange colour.

*** HUME'S WILLOW-WARBLER***Phylloscopus inornatus humii*

Apart from the Chiffchaff, this has been in recent years easily the commonest Willow-Warbler throughout the winter months. Unless they have changed their status, it must be assumed that General Hutson confused this and the Greenish Willow-Wren, which is a plentiful bird of passage in autumn, but does not now occur in Delhi in mid-winter. Their call-notes '*tiss-yip*' are almost identical, but this is a much smaller bird, shorter in the tail, lacks the greenish tinge of *P. trochiloides*, and has a conspicuous white wing-bar, often showing a trace of a second pale wing-bar.

*** BROOK'S WILLOW-WARBLER***Phylloscopus subviridis*

Very similar to Hume's Willow-Warbler, but somewhat yellowish on the face and throat. Twice observed in winter. It flutters and hovers round the foliage of trees more than Hume's Willow-Warbler.

GREENISH WILLOW-WREN

Phylloscopus trochiloides

This Willow-Wren is a winter visitor in small numbers frequenting woodlands. Apart from one or possibly two occurrences in November (4th and 24th), all my records were in the four months January to April. My latest record was 19th April. The Greenish Willow-Wren is usually met singly but is occasionally seen in couples. In a tree it never seems to be still but hops from twig to twig, moves rapidly about the tree and occasionally flutters before the foliage.

It is a small bird with a single yellow wing-bar below which there is a dark line : the upper parts are greenish and the under parts pale green ; there is a buff eye-stripe.

* In recent years this bird has only been noted as an autumn passage migrant, chiefly in September and October. Some that are very green with a pronounced yellow wing-bar are probably *P. nitidus*.

LARGE CROWNED WILLOW-WREN

Phylloscopus occipitalis

My only record was not a sure one. The bird was in a thorn hedge near Gurdwara in the riverain belt on 19th March. It had a marked yellow eye-stripe and yellowish under parts.

* One observed at Okhla April 1951. The dark brows, contrasting with pale occipital stripe, are the best means of identification. Basil Edwardes appears to have obtained one in mid-winter. From the bird's known winter range this is a surprising record.

* JUNGLE WREN-WARBLER

Prinia sylvatica

Probably a scarce resident in open country.

STREAKED WREN-WARBLER

Prinia gracilis

The Streaked Wren-Warbler is a resident species. It haunts long

grass near the river and is plentiful locally.

Nesting probably begins in March. On the 12th of that month a partially built nest was found about 12 inches off the ground in a tussock of short *erianthus* and tamarisk : it was a flimsy domed affair and was later lined with white down plucked from flowering grass heads. There was one egg in this nest on 26th March. Another nest had four eggs (pinkish) on 19th March : they hatched about 2nd April and on 16th April the nest was empty and I assumed that the young had flown.

The bird makes a snapping noise when it flies off.

ASHY WREN-WARBLER

Prinia socialis

The Ashy Wren-Warbler is a lover of thick cover : the waist-high vegetation along drains, the tall herbage amongst garden shrubberies, and coarse rank grass, are the places where it is likely to be met. It will usually be seen singly or in pairs, except after nesting when families go about together. It did not seem to be a numerous species.

In its winter plumage which is assumed during October, the Ashy Wren-Warbler is not easily distinguished from other Wren-Warblers. The breeding plumage is acquired during March and April.

Males were noticed singing in April and continued this all through the nesting season, usually from the top of a bush but sometimes from a perch such as a millet head. Pairing is probably in May. At this season a kind of flicking noise was made by the birds as they flew about. Nesting is probably in June and July : a bird seen on 23rd June with food in its bill may have had nestlings. The first fledglings were seen on 5th August : there were three or four in some tussock grass. The youngsters kept on the move whilst their parents searched for food in the vicinity. Another family party of two adults and three fledglings first met on 18th August and seen in much the same place daily until 26th August behaved in much the same way, the young birds following their parents as they hunted an *erianthus* clump. The adults kept up an almost continuous anxious 'de-dec'. In September the family parties were

breaking up, but some adults apparently still feeding young were met as late as 24th September.

The Ashy Wren-Warbler carries its tail jauntily and the black spots show near the top. The tails of the fledglings are short but are definitely banded black and white, a feature which distinguishes them from the young Franklin's Wren-Warblers whose tails are not barred. The upper plumage of the young is brown, the wings being reddish-brown : the throat and under parts are yellow-buff and the bill yellow.

INDIAN WREN-WARBLER

Prinia inornata

Erianthus clumps, rough herbage, thicket bushes and standing crops are the haunts of this Wren-Warbler, and it sometimes frequents babool trees. It is a plentiful species and is met singly and in small parties. In February and March the cornfields became very popular haunts. The corn at this time although still green was tall and the fields were yellow with mustard. Parties of Wren-Warblers, four or five together, bounced over the fields, clinging to the stems and singing : couples chased one another, making a clicking noise with their wings : individuals were perched on the telegraph lines which crossed the crops. They carry their long tails cocked and flick and twist them as they sing.

Singing began in February well before nesting started. The first nest was found on 10th June : it had just been begun in an *erianthus* clump, a slight cradle of fine thread-like pieces of grass slung between the stems. Two nests were found on 25th June : a bird appeared with food and disappeared into the herbage ; its nest was easily found as the grasses from which it was woven had dried and showed up against the green of the plant in which the nest was placed. It was a well-woven structure without a lining and held newly hatched youngsters. Further on another Wren-Warbler was singing from the top of an *erianthus* clump : the bird flew to the next clump and its mate showed herself for a moment. She had come off a nest similar to the first and containing four eggs of hedge-sparrow-blue, boldly marked reddish at their broad ends. The entrance

hole of the nest is large. The grasses of the clump are not woven into the nest.

Nests with eggs were found throughout July and the first half of August. The last eggs were seen on 16th August and these were hatched the next day. The nest of this Wren-Warbler is typically a deep unlined purse woven of strips of grass and interwoven with the grass stems of the tussock in which it is placed : it is usually about two feet above the ground and, because its material soon dries and turns brown, it is often easily seen. One nest was found in a bush instead of in the usual *erianthus* clump : it was about two feet above the ground and was slung from a slender upright with the entrance to the purse at the side and near the top and partly hidden by a leaf which had been woven into the structure. This nest held small black nestlings on 5th August : both parents were feeding them.

GOLDEN ORIOLE

Oriolus oriolus

The Golden Oriole is a summer visitor arriving in April and leaving in September. My earliest records, in 1944 and 1945 were 2nd and 5th April respectively, in each case a male. The bird's tuneful whistle '*fee-fee-fee-ch-few*' is heard a day or two after their arrival and the males quickly take up their whistling perches in the trees. The Golden Oriole is plentiful wherever there are leafy trees, and by 22nd April its whistling was a common sound along the tree-bordered Delhi roads and was heard throughout the day. By May it had become a feature of the early morning chorus—the Orioles calling from their regular whistling perches.

The females appeared to arrive later in April than the males. Pairing and nesting began in May. The first nest was found on 23rd May : it was slung near the end of a drooping twig and when first found I could see through the bottom of the nest : on the 25th it looked complete and on the 28th one of the pair was on it. Most nests were found in June. They were usually in or near the favourite whistling tree. The nest is a grass cradle lined with finer grasses and slung from the outer branches of a leafy tree, the neem being

perhaps the most favoured. The height varied considerably, but was usually well out of reach ; only one was found which could be reached by hand, it was six feet up on the lower stem of a small babool overhanging a borrow-pit.

One pair which had built in a neem tree in the beginning of May but had their nest pulled out on the 17th had completed another nest by the 25th three trees further along the road but considerably higher up. The male of this pair did not, I think, give up its whistling when the first nest was destroyed. The whistling from a nearby perch is characteristic of the Oriole and continues, though possibly somewhat subdued, when the female is sitting. The nest is made of fresh green grass but this becomes yellowish as it dries and makes the nest conspicuous against the bright green of the foliage.

The Oriole's eggs are white with dark spots. The first youngsters (newly hatched) were seen on 2nd July : they were very pink with whitish hairs. The first fledgling noticed was on 10th July : it was being attacked by a Crow. Fledglings were about in August. Their call coming from the leafy trees is a shrill repeated 'eep'. They have very white breasts streaked dark and the bill less pink than that of the adults.

I have seen Orioles feeding on *jambolana* fruits, *salvadora* berries and caterpillars. One bird had a large winged insect which was first hammered and then further softened by biting it all along its length after which it was swallowed.

In August the Oriole's call is heard less frequently and seems quieter. The birds leave in September, many of them perhaps early in the month but some of them later. In October there were only one or two records of the Oriole and these in the first half of the month. No difference in departure dates was noticeable between the sexes.

* BLACK-HEADED ORIOLE

Oriolus xanthornus

One watched at close quarters in Qudsia Gardens, Delhi, in March 1951.

ROSY PASTOR

Pastor roseus

Rosy Pastors in large numbers pass through Delhi on both spring and autumn passages. The former begins about the second week in March and continues until the end of April, some six weeks in all, with the maximum movement during the first fortnight in April. A bare three months elapse and the return journey starts. The leading birds arrive at the end of July and by mid-September the passage is over. It reaches its height during the first three weeks of August.

I first noticed the Rosy Pastors in August 1943. Crossing a belt of woodland on the golf links I came upon a small party of the birds, some bathing in a pool formed by a leaking stand-pipe, others perched in nearby trees preening themselves. Most of them were adults with black crown, wings and tail and the rest of the plumage a pale pink. One or two were juveniles in light brown dress. There were other parties about the course, in the trees and feeding on the fairways. The largest single gathering numbered rather over a 100 of whom a dozen or so were youngsters. This flock was feeding across a grassy fairway in company with Ring-Doves, Common Mynahs and Hoopoes. A little later, just before sunset, when Green Bee-Eaters, Parrakeets and Crows were flying off to roost, the Rosy Pastors left, but their bands all flew eastwards, the opposite direction to that taken by the others. Whether the Pastors were also seeking sleeping quarters, or whether they were resuming their journey south and intended travelling during the night I was unable to determine.

In the following spring my observations were more extensive and covered practically the whole period of the passage. I saw the birds first on 12th March and I did not hear of any earlier record. This time it was a small flock feeding in a field of ripening corn. The field was a little one, a solitary patch of cultivation in an expanse of waste land, and had attracted other birds besides the Pastors. A flock of Green Parrakeets was hard at work robbing the corn. Based on a nearby tree, these birds were flying down, biting off the ears and carrying them back to eat on the branches. The Pastors, and with

them Bank Mynahs and Common Mynahs, were busy on the ground. They were not attempting to pluck the corn, but were searching below, either for fallen grains or for insects. Another band of Pastors flew up and dropped into the corn beside the first. By this time sunset was approaching and presently all the birds left, the Pastors and Mynahs making towards the golf links. The Common Mynahs had a regularly used roost there and flew to it, but the Bank Mynahs and the Pastors stopped short, collecting in two or three small thorn trees. Then a number of Bank Mynahs which had been feeding on the ground took wing and the others of their kind on the trees went with them. About ten minutes later the Pastors followed.

I suspected they were all going to a roosting place just south of the golf links. It had been used during the winter by Starlings and Bank Mynahs, both of which species seemed loath to share the far larger Common Mynah roost. They used instead some thickets just clear of it. The Starlings had moved north and apparently the Rosy Pastors were taking their place. I had noticed that the Starlings associated more closely with the Bank Mynahs than with the Common Mynahs, and it seemed that the Rosy Pastors were similarly inclined. But the tendency was not so apparent a few days later when the ripening berries of *Salvadora persica* began to attract the Pastors. Then they flew freely with the Common Mynahs and, to some extent I think, shared their roost.

All through April the migration of the Pastors went on, but it was not until towards the end of the first week in that month that the movement really gathered weight and became a close succession of hurrying flocks flying over Delhi day after day, certainly every morning and evening, and in all probability more or less continuously throughout the daytime. Up to this point the passage had appeared leisurely and of no great volume. The birds seemed to be working their way northwards gradually, feeding as they went, and lingering possibly in some places for several days. On the evening of the 4th there was a noticeable change in the mode of travel. Both its pace and its volume were increasing. The Pastors were flying over in flocks, most of them low and travelling fast, but some at considerable height. These last were usually the larger flocks,

numbering hundreds of birds. They flew on an extended front, whereas the smaller parties moved as compact bands. This went on day after day. In the early morning, on my way to office after breakfast, and during my evening walks in the last hour or so before sunset, I saw and met Pastors. In small parties of only a dozen or so, in larger bands and in flocks of several hundreds they were going by. A great many crossed Delhi at very little above tree-top level, and frequently these low-flying birds would make a halt. You would see a fast-moving flock suddenly check, wheel and alight in a tree. The tallest trees and those with bright flowers such as the scarlet *Erythrina indica* and the orange-yellow *grevillea* seemed the most popular. Very often a succession of flocks would fly up and settle in this fashion. Some of the halting places too were used day after day.

The halts were usually brief. After a minute or two the birds would fly on. In the majority of cases they did not feed in the trees where they had settled. I took it that they were merely resting. Alternatively, when several small parties alighted in one spot, the proceeding might have been a method of building up a flock for the next stage onwards. This would have been likely with birds which had come into Delhi overnight. Some of the Pastors I saw looked as if they had done this. One largish flock I remember especially. I came upon it in the early morning in a patch of waste land dotted with small *Acacia* trees. Some of the birds were feeding on the ground, others were in the tree-tops. The latter were twittering pleasantly, preening a bit and shaking their wings. The flock might well have dropped in overnight and now be making ready for the next flight. In the early sunlight the rosy tints of these Pastors showed to perfection. The mantle and back were a slightly richer hue than the under parts, although it is the latter which in flight catch the eye, and establishes the identity of a passing flock. The number of these flocks was falling off rapidly during the third week of April. On the 22nd my only record was a band of about 20 birds resting in a *salvadora* tree. The next day was a Sunday. I was out all day but never saw a Rosy Pastor. The spring passage was over. Two single birds seen on 7th and 13th May respectively could only have been stragglers left behind.

In July I was away from India, and arrived back to find that the southward journey of the Pastors had just started. There were a few of them in Karachi, where I landed on 5th August, and the next day I found them at Delhi already in considerable numbers. On this autumn passage the birds did not settle in the trees of New Delhi as they had done in the spring. Indeed, it seemed at first that their main line of flight, although still including the golf links, was slightly to the east of the former route. Later on, however, towards the middle of the month, the passing bands were travelling on their old alignment. Even so they did not settle in the trees of the New Delhi gardens. When these Pastors did alight it was usually in areas of indigenous woodland such as occur on the golf links and in the more open waste patches. At this season the brightly flowering trees are not in bloom nor are there any *salvadora* fruits. In their place a particularly thorny thicket which flourished in the areas of self-sown woodland bore quantities of small blue-black berries on which the Pastors fed. They sought their food on the ground as well, and here the attraction appeared to be some form of insect life. The birds work in very close formation through patches of short grass, moving rapidly all in the same direction, and every now and again getting up *en masse* and flying forward a few yards. It looked as if they were deliberately beating the area in pursuit of some small prey. King-Crows were taking part too, but operated from posts on low perches or on the ground.

Most of the actual movement that I saw this month was in the early morning and in the evening. The days were hot and I came upon one flock which had halted for a drink. The birds had crowded into an *Acacia* tree on the edge of some flooded fields and were dropping down to the wet mud below. On this passage birds in juvenile plumage were noticeably absent. I did not see one until the 13th, and then only a single bird in a flock. Later I saw others, but never many. The great majority of the birds seen close enough to distinguish the plumage were in adult dress. The juveniles it seemed were either not stopping or were taking some other route. By the last week in August the volume of the passage had lessened considerably. Its pace, too, had apparently diminished. Some of the flocks seen showed an indecision in their southward drive. They

were noticed towards evening flying north instead, heading perhaps for a roosting place. It may have been that the blue-black berries, now at their height, attracted the Pastors sufficiently to make them linger awhile. Certainly they were to be found in some numbers feeding with Common Mynahs in the thickets. But by the beginning of September the berries were over, and on the 3rd I found none of the birds at all in the place they had formerly frequented. Indeed I saw only two parties of Pastors during the whole of that day. A week later a little group of three or four birds was all I met. Once more the Rosy Pastors had gone by.

STARLING

Sturnus vulgaris

The Starlings are winter visitors arriving in November and leaving in February, save a few stragglers who linger on till the middle of March. They occur plentifully in parties, bands and flocks, on the stubble and plough, with grazing cattle, by flooded fields and on the edges of swamps. I have seen a flock in a field of young corn which was being weeded, the birds working along very fast behind the cultivators, those in the rear continually flying up to the head of the column. On another occasion a flock of over 200 was by a threshing floor.

The Starlings often feed with Bank Mynahs and they join these and the Common Mynahs in some of the large communal roosts. Parties of Starlings would be met towards sunset working their way with the Mynahs towards the roosting places. The birds would pause perhaps on the way to perch on a telegraph line or in a tree, the Starlings easily recognizable by their slimmer build and by the absence of overhanging features at the base of the bill which in consequence projects more clearly from the head and therefore looks longer. On the golf links the roost was in zizyphus thickets in a belt of woodland. In New Delhi itself the bamboo clumps common in many gardens were much used, being shared with Common Mynahs. To all these roosts the Starlings came in bands of their own kind.

On one or two mornings which were unusually overcast, the Starlings were noticeably later than normal in leaving their roosts. Although a great many Starlings roosted in Delhi they all flew out to the open cultivation to feed.

* GREY-HEADED MYNAH

Sturnia malabarica

One seen on the Ridge, Old Delhi in September.

BRAHMINY MYNAH

Temenuchus pagodarum

The Brahminy Mynah is a resident species met singly, in couples and in small parties up to half a dozen or even a dozen, although the last number is uncommon.

In the non-breeding season these Mynahs are to be met in waste land and fairly open country, where there are bushes and small trees. They feed on the ground and on wild fruits. The *Capparis aphylla* is a favourite haunt both for its berries, which are ripe in December and January, and as a roosting place.

In March the birds begin to pair ; snatches of song were heard in February. In April there is a move from the scrub country to parkland and woodland in search of nesting holes. This leads to local concentrations of these Mynahs : this was very noticeable in the Lodi Gardens.

Nesting seemed to begin about the second week in April and lasted into July. Couples were singing, billing and displaying in May. The male will stand erect on the grass, stretch himself and throw back his head ; the black 'mane' is raised and the tail expanded and touching the ground. He sings and his mate feeds alongside.

The nests are in holes usually in trees but sometimes in walls. Fledglings were first seen on 24th May but nestlings were being fed as late as 6th August. Family parties were common in June and July. The youngsters have greyish crowns and yellow bills ; they have no mane.

Towards the end of August and in September the dispersal from the breeding areas takes place and gatherings rather larger than the family are to be met. There is some mingling now with Common Mynahs.

COMMON MYNAH

Acridotheres tristis

Common Mynahs occur plentifully and generally over the area — about buildings, ruins, roads, stubble and grassy spaces. They are commonly met in parties and gatherings of a dozen or so but collect in large numbers to roost. Although most often in gatherings of their own kind they are frequently with other species; feeding, bathing and roosting with them. They bathe with Crows in flooded flower beds, and with Crows and other birds visit the red *spathodea* blooms and the *bemba* trees in flower; they join the mixed gatherings feeding on *salvadora* berries, on ripening dates, wild figs and the berries of the thorny caper.

These Mynahs are often noisy; feeding with Parrakeets and others they make as much chatter as a roosting party. And they are quarrelsome too: groups of Mynahs will fall from a tree in a struggling mass to continue their bickering on the ground. Not much harm seems to be done. One couple was fighting on the grass; a bird turned on its back and lay there whilst its opponent walked off. Then the apparently vanquished bird got up and walked after the victor: the struggle is resumed and this time both birds are on their backs.

The Mynah sometimes joins other species in mobbing. I have seen it with Crows mobbing a Buzzard and chasing a Hawk; but this activity is not common.

Nesting begins in April. Birds will be seen investigating possible holes, quarrelling with other claimants or with occupants already in possession, and taking nesting material into holes. Almost any cavity will serve provided it is not too low down: holes in buildings, ruins, and trees are used equally and, a lamp standard the broken glass of which provides a means of access, will also serve. The nest itself is bulky, the quantity of material governed to some extent no

doubt by the size of the cavity. Material is taken to the nest after incubation has begun.

Fledglings were seen in June, and in August family parties were common. Some pairs were still feeding nestlings in August and fledglings with their parents were met in September. The young birds are very like the adults, but are rather greyer and slimmer and have very little white at the tail tip.

Not all the Mynah parties and gatherings break up even in May when nesting is in full swing and they are not uncommon in June. They are reforming in August before the nesting is over.

Except possibly at the height of the nesting season much of the Mynah population roosts gregariously. Some of these roosts are very large. One of them was on the Lodi Golf Links in a zizyphus thicket in a belt of woodland. The Mynahs would be seen heading for it as sunset approached and at the same time as the Crows were flying overhead to their roosts in New Delhi. The Mynahs work forward by short flights, stopping frequently for a last feed on the ground. As they near the drain which borders the roost many of them make a final pause in trees or on the telegraph wire before flying across the road to the golf links. Bank Mynahs and Starlings are also making for the same roosting place. Across the road the birds alight in the tree-tops above the zizyphus thickets. As the sun sets the Mynahs drop down into the thickets and with a tremendous chatter settle down. They are roosting less than six feet above the ground, but the density of the thickets makes them safe.

The bamboo clumps in the New Delhi gardens were also popular roosting places. The Mynahs fly up, wheel round several times perhaps and then drop into the top of the clump. Another Mynah roost was in the leafy trees of the Vista.

In the early morning bands of chattering Mynahs hurry forth from their roosts, rush into a tree maybe for a moment's pause and then go on. Sometimes on a cold day the pauses are longer, for birds stop in sunny places on the tops of bamboo clumps and on houses to warm themselves.

BANK MYNAH

Acridotheres ginginianus

Except in their roosting, Bank Mynahs are birds of the open, frequenting grazing land, plough and young crops. In parties and bands, some as strong as 60 birds, they follow the plough, accompany grazing cattle sometimes perching on the beasts' backs to preen and rest, attend on grass cutters and on villagers working in the fields and visit large rubbish dumps. The Bank Mynahs are often in company with other species, King-Crows, Yellow Wagtails, Common Mynahs etc., and join the mixed parties feeding on wild fruits such as the *salvadora* berries. They are ground feeders but often rest during the day in babool and other trees.

Roosting gatherings take place throughout the winter commencing in August and continuing into March. Bank Mynahs joined with Common Mynahs, Starlings and Rosy Pastors in the roost on the Lodi Golf Links, and as many as 100 of them were seen in a pre-roosting gathering on the top of a large leafless tree near the thickets. Another roost was in the reed-beds round the pond at mile 9 on the Delhi-Mathura road. Here the birds assembled on the ground and in nearby bushes, bands and parties flying up to swell the gathering. Eventually the birds rose as a flock and with a great deal of chatter dropped into the reed-beds. Some late parties flew up and went straight into the roost.

Nesting began in mid-March. On the 19th of that month a band of 40 or more began excavating their nesting holes in the Jumna bank. The birds had chosen a length of the river where the top two or three feet of the bank was almost vertical. Work continued somewhat erratically for about a week by which time several holes were a foot or more deep although others were still only a few inches. Then a high river caused falls of the bank and the colony was abandoned. On 16th April a smaller colony was begun a little upstream of the first site but made only slow progress. Other colonies were seen in the river bank in May and by the first week in June there were probably young in some of the holes.

One colony made use of the weep-holes — 9 inches by 4½ inches — in a brick railway bridge. There were 62 holes and nearly every one

of them was occupied. In early June some of the Mynahs appeared to have nestlings as they were taking in insects. As is usual with a Mynah colony there were a number of the birds standing about on the ground nearby. Some of them were to be seen taking in pieces of material throughout June. Another colony was in the sandy side of a shallow well dug to irrigate a melon patch. Nesting continued into August.

PIED MYNAH

Sturnopastor contra

Pied Mynahs were not very numerous. They were met in ones, twos and threes and also in small bands up to 12 or 15. They are always near water, a pool, a swamp or a canal. Possibly a band occupies an area and its members scatter to feed.

The Pied Mynah has a pleasant musical call. In April much squabbling is noticeable, and now and again a locked couple will fall from a tree to the grass below but, although there is a lot of noise, the fighting is not serious.

Nesting is from May to July, the members of a band building in a scattered colony. The nests are large untidy structures mainly of grass but often including pieces of rag.

BAYA WEAVER-BIRD

Ploceus philippinus

This is a numerous species frequenting indigenous woodland, scrub and cultivation. During the winter months (October-April) the birds will be found in bands and flocks feeding in millet, corn and other crops and also on *erianthus* heads. The bands which may number no more than a dozen birds collect at sunset, approach into flocks for roosting, and spend the night in *erianthus* patches and reed-beds as well as in gardens.

In May and, in a few cases, towards the end of April, the male Bayas whose plumage during the winter has been the same as that of the females, begin to assume their breeding dress. At first all

that one notices is a bird here and there with some yellow on its crown. As the month proceeds splashes of yellow are noticeable on the breast and the face becomes blackish. In June the yellow of the males in a flock definitely catches the eye, and by the middle of this month they are in full plumage or nearly so with bright yellow crown and breast, black face and throat, and boldly streaked upper parts. A male beside a female looks larger and over-poweringly resplendent.

Nesting seems to begin with a false or practice start in some place quite different from the site which is finally occupied. The first of these 'false' colonies was noticed on 13th June : it consisted of three incomplete nests in a shisham tree overhanging a palm. On 18th June a rather larger colony was seen in a patch of thick babool surrounded by tall grass and herbage : only male birds were at work ; their efforts, which were all in one babool, looked misshapen and crude. The birds clung to their nests with quivering wings all the while uttering their wheezy calls. If a female appeared she would be driven off. Other colonies of the same sort were noticed, and all of these early starts were abandoned.

Serious nesting began in July and all of these tree colonies were in palms, sometimes crowded in a single and possibly solitary palm, sometimes spread amongst several adjacent palms. In one colony in a palm on the edge of a strip of babool on the Lodi Golf Links, there were young in the nests on 23rd August: their chirrupping could be heard and the adults were bringing food. Only the females seemed to be doing this and the bulk of the food appeared to be grasshoppers, juicy green ones and also brown ones. One female brought what looked like a dragon-fly. In the earlier stages of this colony the males had been about the nests but none were noticed now.

Even in August some parties are still making 'false' nests in babools. As a rule few of these nests are complete, but a few may have funnel entrances and look nearly finished. The males seem to be in charge and chase off intruders.

By about mid-September the nesting seems over. Bayas, possibly the breeding colonies, were met in the rough herbage not far from their nesting site and also in millet and other crops. No males in full plumage were to be seen now.

*** BLACK-THROATED WEAVER-BIRD***Ploceus bengalensis*

One old record.

STRIATED WEAVER-BIRD*Ploceus manyar*

This species did not seem numerous. My records were all in the months June to October but it may be that I overlooked this Weaver-bird in its winter plumage. Reed-beds and tall coarse vegetation were haunts where I met it, and probably it does not go far from water.

My first record was on 11th June when I came upon a small party where the Stadium drain runs into the Jumna river. The birds — a dozen or so, mostly males — were amongst grass and tall vegetation. They frequented the locality regularly feeding on seeding grasses, and on 25th June their nesting colony, quite a small one, was found in a patch of tall *erianthus* on the river bank. Building was in progress. A male Weaver arrives with a piece of grass. On 3rd July there are six to eight nests in various stages of completion. The first stage in construction looks somewhat like a basket with a handle, but hung so that the basket part is vertical and the handle more or less horizontal. In the next step the lower half of the basket is woven up to the handle thus forming the egg-chamber. Finally the upper half of the basket has the funnel entrance added and the retort-shaped nest is complete. It is a very substantial structure, not easily pulled apart and cannot be confused with the nest of *P. philippinus* because of the bent down grass stems which are woven into the top of the Striated Weaver-bird's nest. The work of building seems to be done by the males.

On 3rd July three of the nests in the colony had eggs — three, two, one respectively — and in the case of the last the funnel had not been made. On 20th August I counted a dozen nests in the colony. There is not much activity about the nests but some have nestlings. It is exceptional I think for a nest with a short funnel to

contain eggs or young, but nearly all the apparently completed funnels have some greenish grass at the end and so are possibly added to from time to time. In most cases the nests were in pairs — a completed nest and a 'cock's' nest. Two of the latter were 'decorated' with yellow babool blossoms : one was completely closed and made into a mis-shapen ball.

As late as 15th October the band from the nesting colony was still in the vicinity, feeding on seeding grasses. There is very little yellow on any of the birds now. The male Striated Weaver-bird in full breeding plumage has a brilliant orange crown, blackish head and throat and streaked black upper parts.

In another colony, also in an *erianthus* clump near water, a babool flower from a nearby tree had been woven into the top of a nest. I heard of, but did not actually see, a large colony in the reed-beds at Okhla.

CHESTNUT-BELLIED MUNIA

Munia atricapilla

I saw this Munia on two occasions only on 25th June and on 2nd July, each time in the same place so that it was probably the same bird. It was with a party of Striated Weaver-birds feeding among seeding grasses at the mouth of the Stadium drain.

WHITE-THROATED MUNIA

Uroloncha malabarica

The White-throated Munias are birds of the waste land and of areas of indigenous vegetation, rather than of gardens and cultivations. They are met in small parties up to half a dozen, in bands up to 30 and occasionally in small flocks, one of which seen towards the end of May numbered nearly 100.

These Munias feed chiefly on the ground, preferring areas of short grass and bare earth, and also on *erianthus* heads and other seeding grasses. At times they keep company with Baya Weaver-birds and Sparrows. A band will frequent a particular area for some time.

The birds have a marked liking for caper and other thorny thickets which serve them both for roosting and for nesting. Several times during the winter I came on a small party of Munias going to roost in an old nest in a caper bush. Couples, too, presumably pairs, were found resting in old nests in the same fashion ; they were also seen visiting the 'false' nests of Baya Weaver-birds, sometimes in a colony which was occupied, but whether the Munias were using them for roosting or for nesting was not determined.

The nesting season seemed an extended one. Birds were seen collecting grass in March, April and June and nests were found in March, August and September. Caper bushes and small babools were the situations commonly chosen. The nest itself is a rather bulky and untidy ball of grass with an entrance at the side and lined with feathers or down. It is not as a rule placed at any height, and one at eight feet above the ground seemed exceptional. A nest found on 27th August had one egg, but was unlined ; on 3rd September it held seven eggs and was snugly lined ; on 10th September there were three newly hatched young and four eggs.

When a flock of these Munias flies off it does so in somewhat swaying fashion, the white rumps showing above the black tails.

* SPOTTED MUNIA

Uroloncha punctulata

An occasional visitor, seen in small parties.

RED AVADAVAT

Amandava amandava

My records of the Red Avadavat were too few to be sure of its status. I saw it only some half a dozen times between June and November. Each time the birds were in *erianthus* grass. On the first occasion there were three Avadavats with a party of Striated Weaver-birds; the next time a single male, then about a dozen birds. The other records were of one, two, and two Avadavats, the last instance being a pair. In addition, I had news of, but did not see, a

flock of about 40 at Okhla.

The male has the crown rump and breast crimson, the wings spotted white, the end of the tail black and the rest of the upper plumage diffused with crimson. Its flight over the grass tufts is bouncing.

* In autumn and winter large flocks may be seen flying to roost across the marsh by the 9th milestone on the Mathura road.

COMMON ROSEFINCH

Carpodacus erythrinus

The Rosefinches were not seen very often. They were winter visitors, from December to April apparently, frequenting light woodland in small parties of less than a dozen. The birds were usually on the ground and would fly up into a tree and sit there quietly. They were not at all conspicuous. The male has pink on the throat and breast and some pink on the crown : the female shows across the closed wing a white half bar and below this a whole one. A party seemed to keep to much the same area throughout its stay.

* Sometimes locally numerous during the autumn migration.

* EASTERN DESERT-FINCH

Bucanetes githaginea

There is a record of one having been seen at Gurgaon in 1877 !

YELLOW-THROATED SPARROW

Gymnorhis xanthocollis

The Yellow-throated Sparrow avoids gardens and dwellings : it is a bird of the thin indigenous woodlands. I met it usually in small bands which were often scattered, but there were larger gatherings for roosting. One of the latter, the largest seen, numbered some 40 birds : they were collecting one evening in two small babools

and more birds were flying up to join them.

They may be found searching the foliage of a tree, investigating bushes and, at times whilst doing so, hanging upside down. It visits flowers : I have seen it at those of the *Caper aphylla* and at the white blooms of *Adhatoda vassica*. On one occasion a band was feeding on *salvadora* berries.

Nesting begins probably in April. A male Yellow-throated Sparrow was chirrupping in a babool near Azimgarh Serai on 22nd April : its mate flew up with building material and went into a hole in the tree.

The Yellow-throated Sparrow has a rather weak chirrupping song which is usually uttered from a bush or tree and was heard once from a bird on a telegraph wire. April and May were months of song : it was heard, too, in October.

The pale yellow patch on the throat is a good means of identifying this species, but is not always very noticeable. Sometimes when the bird is singing and has its throat extended or, when it turns its head sideways or faces the sun, the mark shows very clearly. There will be many occasions however when it does not catch the eye. Then the grey head and two wing-bars are good recognition marks. The bird in general is rather slender ; its colouring is light above and brownish below and its flight is somewhat bouncing.

HOUSE-SPARROW

Passer domesticus

House-Sparrows are plentiful about buildings and also at times in cultivation : in September ripening millet attracted them and in December in company with Parrakeets, Mynahs, Starlings and other birds, they were visiting the heaps of jowari and bajra collected for thrashing.

Nesting was noticed from March to June. Sites in buildings and crevices and weep-holes in masonry bridges and walls are chosen. The old nests of Cliff-Swallows are also used. In one colony of the latter, which was in full occupation by its rightful owners, several pairs of Sparrows had taken possession of some of the nests ; those which were either broken or incomplete it seemed since none of them had the funnel entrance. Untidy bits of feather hang out from the

nests the Sparrows were using. One pair expended a great deal of effort in building in the grille over the entrance to the Secretariat, much of the material they brought dropping to the ground below.

The first nest noticed was on 2nd March : both birds were bringing grass to it. Feathers were still being added on 1st April and the eggs hatched about 8th April.

Flocking was noticed from August onwards; both to feed in the millet and for roosting. One roost was among the reeds at the pond at mile 9 on the Delhi-Mathura road.

WHITE-CAPPED BUNTING

Emberiza stewarti

These Buntings are winter visitors. They are not numerous : only a few rather widely separated bands of a dozen or so birds each were met. Most of my records were in the spring (March and April) : there was one winter record in November.

The White-capped Buntings frequent indigenous woodland. They were always found feeding on the ground, on short grass and usually close to bushes or trees. The birds are shy and fly up into a tree when disturbed. But they do not go far and are soon down again and feeding, although not in quite the same spot. They are not very conspicuous on the ground : in flight they show white outer tail feathers.

The male White-capped Bunting has the chin and throat black, the breast white with a rufous belly-band followed by a light strip : the mantle is rufous, the crown light grey : there is a broad black streak below the crown and a black 'moustache' streak.

* STRIOLATED BUNTING

Emberiza striolata

Seen near the Qutab on 2nd March 1952. Lav Kumar.

MEADOW-BUNTING

Emberiza cia

There was only one record and that not a sure one of this Bunting. It was on 11th November 1945 high up on the top of a wall at Tughlakabad.

* GREY-NECKED BUNTING

Emberiza huttoni

Single birds noted on the Ridge, New Delhi, and at Tughlakabad. Probably only a passage migrant.

RED-HEADED BUNTING

Emberiza bruniceps

This Bunting is probably a spring passage migrant only. With one exception all my records were between mid-March and mid-April and the exception was a single bird seen on 26th November with a flock of Baya Weaver-birds.

I first saw these Buntings on 12th March—a band of about 20 resting at noon in some small babool bushes in an *erianthus* strip by the river. A week later I came upon a flock in a patch of low babool and also a small party near where the band had been seen on the 12th and possibly the same birds. A rather pleasant twittering comes from these gatherings. On the 26th the Red-headed Buntings were noticeably more numerous; there were more flocks and they were larger. The birds were to be met in patches of low babool, in the corn which was turning yellow and in trees among the cultivation. The birds seen early in the month were acquiring their breeding plumage; by the end of March many of the males were in full dress.

Throughout the first half of April they continued numerous in the riverain belt, twittering in trees and in the corn. On 16th April the flocks and bands seemed spread over a wider area than previously and the reed-beds at Okhla became one of their haunts. Some

of the flocks met in mid-April seemed to be composed of females or of birds not in breeding dress.

These Buntings apparently moved on in the second half of April. I had no records after 16th April.

All my records of the Red-headed Bunting were in the riverain belt.

* They occur also in flocks in cultivated country far from the river.

BLACK-HEADED BUNTING

Emberiza melanocephala

Again a single record—on 2nd April 1944—one bird in a tree in the riverain belt with a flock of *E. bruniceps*.

CRESTED BUNTING

Melophus lathamii

There were only two records of this Bunting—one on 15th October 1944 and the other on 9th May 1945. It was a single bird each time and both occurrences were in the riverain belt. Each bird was seen on the ground and seemed very shy.

The Crested Bunting is a blackish bird with a noticeable black crest ; there is chestnut on the wings and the tail shows rufous in flight.

INDIAN SAND-MARTIN

Riparia paludicola

Sand-Martins range over the whole area. They were most numerous in the riverain belt where they were to be seen in flocks which often comprised hundreds of the birds, but small parties might be met anywhere over pools and in the open country. The large gatherings were particularly noticeable in the months of June, July and August and during this period they were often crowded together on the telegraph wires near the river. In one such gathering some 400 of the birds were in ten closely packed rows and a little further on another 200 in five rows. Sometimes there would be

Cliff-Swallows with the Sand-Martins on the wire. The smaller bands hawking over the countryside would often be mixed too and might include as well as Cliff-Swallows, Red-rumped Swallows and Swallows.

In October some of the Sand-Martins began to haunt their nesting sites in sandy banks along the rivers and canals. At first the gatherings seem small, but later they increase. In one site, a short stretch of a 4-5 foot vertical river bank, a dozen birds were flying back and forth close to the face on 15th October ; now and again a bird perches on a protruding root or clings to the earth ; one bird enters a hole and remains inside for a moment. A week later the strength of this band had grown to about 40 ; the birds were flying to the bank-face, pausing there a moment or two to peer into the holes and then all flying away to hawk over the river and cultivation for a while, after which they come back again for another visit to the nesting place.

Nesting probably began seriously in November. At one colony of about 100 holes, the owners were flying about anxiously on the 18th but there did not seem to be any eggs and, although some of the holes were three feet deep, others had only been begun. Sand-Martins were still visiting their nesting holes in February and, in one or two cases, as late as March.

DUSKY CRAG-MARTIN

Riparia concolor

The Dusky Crag-Martin seemed very much linked with old masonry ruins. A suitable site such as one of the tombs in the Lodi Gardens, the Azimgarh Serai or a tower in Tughlakabad would hold one or two pairs which apparently remained in occupation throughout the year. How far afield they ranged was not clear, but birds were seen hawking about *Ficus rettusa* trees and other places half a mile or so from the nearest ruin in the Lodi Gardens.

They are not gregarious : the largest party met numbered eight, and this was possibly a couple of families as it was on 22nd September and the close of the nesting season when they were seen.

Usually only two or three birds are seen together, although they may hawk in company with Red-rumped Swallows.

The nesting season is August — September. The nest is placed against a wall face usually below a projection. One site was in the apex of a bricked up window embrasure in a tomb. A nest seen on 28th August with a bird sitting had young on 6th September ; their heads could be seen over the edge of the nest. They were still in the nest on 15th September and the adults were hawking just in front and perching on the ledge. On 18th September these nestlings had flown. The earliest date on which fledglings were seen was 10th September when two youngsters on a ledge were being fed by their parents.

COMMON SWALLOW

Hirundo rustica

These Swallows are winter visitors arriving in August and leaving during April. My earliest record was 20th August. Parties and flocks were met about the open country, sweeping to and fro amongst grazing cattle and hawking over water, sometimes with Sand-Martins and Swifts.

WIRE-TAILED SWALLOW

Hirundo smithii

The Wire-tailed Swallow was seldom seen far from water. Rivers and canals were its usual haunts and it is possible that individuals and pairs keep very much to a particular territory based perhaps on the bridge or culvert which is used for nesting. In June, during the rains, individual birds were seen once or twice well away from the usual haunts : one was hawking with several Red-rumped Swallows over a New Delhi garden ; another was flying over Albuquerque road.

The Wire-tailed Swallow was nearly always met either singly or in couples. Occasionally as many as four or five were together and some of these parties may have been families. Once three or four

were on a telegraph wire with a band of Cliff-Swallows.

Nesting began in February. On the 4th a pair of Wire-tailed Swallows flew down to a muddy spit at Okhla. After a momentary pause, the birds flew back along the canal and one of them entered a low culvert. A nest had just been begun at the back of the keystone of the masonry arch. It had not made much progress a week later when the couples were again seen at work. There is still little more than the outline of the nest on the stone. Both birds are flying to the culvert but only the female brings mud : the male accompanies her to the culvert where he sits on the steps outside or perhaps flies in to have a brief look. On 18th February the nest is taking a shape : it consists now of a narrow cantilevered ledge just wide enough to take the bird and rather curved. The female again seemed to be the only one of the pair who is actually building. On 25th February the nest is more or less complete but has no lining. On 4th March the nest, a shallow cantilevered saucer, is lined with grass and feathers and contains two eggs. There are three eggs at my next visit on 11th March : no bird was on the nest, but both were flying along the canal nearby. On 18th March the three eggs were warm; the birds were flying up and down past the culvert. Next week the nest was empty and abandoned.

On 29th April a pair of Wire-tailed Swallows, possibly the same birds that had built in the culvert, were getting mud from the same little spit but after flying over the lock they turn back under one of its arches. This time the nest is at the back of the keystone of the arch. Both birds fly to the arch but the female is again doing all the work : the male perches on a ledge outside and when his mate emerges he goes off with her. Once I saw the male bird with mud on its bill but seemingly uncertain how to act : he sat about outside the arch, made some half hearted attempts to go to the nest, then flew in to the next arch : finally he did enter the arch where the nest was, remained some time and emerged without the mud.

All the other nests found were under bridges or culverts and were usually at no great height above the water. There is little difficulty in finding them as one of the birds will generally perch on a handrail or some other part of the structure.

Birds thought to be fledglings were first seen on 9th May.

In flight the rich blue upper parts and pure white under parts catch the eye, but the 'wires' only show when the bird is seen with the sky as background. The 'wires' on the male are as long or longer than the whole of the body : the 'wires' on the female are not very noticeable. The crowns are bright chestnut.

The fledglings have chestnut crowns and white under parts but no 'wires' in the tail.

CLIFF-SWALLOW

Hirundo fluvicola

Cliff-Swallows were met along canals and rivers : they also hawk over jheels and about grazing cattle. The species is double-brooded, nesting between February and May and again in September and October.

On 11th February a colony was found nesting under the arch of the bridge over the canal at Midanpur. The nests were in large clusters at the springing and below the crown of the plastered arch. Most of the nests were only half built and the insides were open. A few showed the beginnings of the funnel entrances. The birds were like bees about the nests. They were collecting mud from a cattle drinking place on the canal a few yards downstream of the bridge. This was noon. Five hours later not a bird was about ; presumably the flock was feeding. On 18th February the Cliff-Swallows were at work at the same time of day as in the previous week although in smaller numbers and less actively, but the nests were noticeably advanced in construction and on a number the funnel entrances were being formed. On 25th February the birds were again at work and there were short funnels to most of the nests. Apparently both birds take part in building : at any rate two came out from a funnel, one after the other, they came out head first. When they return they cling for a moment to the entrance. Most of the birds were working inside their nests. They were collecting mud from the canal bank about 40 yards downstream of the bridge : some 30-40 birds would crowd onto a two yard stretch of the muddy edge and dig for the mud just back from the water. Five hours later the birds are flying about but are not building. Throughout March and April the birds

were about their nests, and at the beginning of the latter month are still collecting mud from the canal and adding it to their nests. Even in May these were flying to their nests.

On 30th September the flock was again busy at its nests : the birds were collecting mud from the edge of the canal and taking it to their nests. Another colony was starting to build again on 7th October at a railway bridge over the Hindan river.

RED-RUMPED SWALLOW

Hirundo daurica

In the non-breeding season the Red-rumped Swallows range widely over the area in small parties often less than half a dozen strong. Sometimes they hawk with Sand-Martins and Swifts. Occasionally larger gatherings were noticed. One of these — a flock of about 130 birds close together on the telegraph wire — was seen on 25th July, a date still within the breeding season : the other, about the same size, was met in November.

For nesting, the parties break up and pairs are found about tombs and other ruins. Nests were found in May, June and July but the season extends beyond this as fledglings were seen in late September. The building of the retort-shaped nest is a lengthy process. One pair of these Swallows whose nest, still in its early stages, was first noticed on 10th May inside a small cupola on an old bridge did not complete its main chamber and start on the spout until 22nd May, and it was not until June that the nest looked complete.

Another pair building against the plastered and slightly curved ceiling above the stairs in some chambers in Safdar Jang had begun their nests about 3rd May. By 19th May the chamber had been completed and the 'funnel' was outlined by two rows of pellets. On 21st May the funnel was nearly finished, and on 29th May the nest looked complete.

A nest was found under an old arch on 7th June which looked complete, it had been built close to an old Swallow's nest that had been used the previous year by a pair of Robins.

The reddish rump and crown of this Swallow are conspicuous but the streaks on the under parts are not easily seen unless the light

is very good. Birds perched on a telegraph wire are often heard warbling.

WHITE WAGTAIL

Motacilla alba

The White Wagtails are winter visitors arriving in September and leaving in April, a few laggards staying on into May. They may be met in almost any open space including gardens and roadsides, sometimes as individuals, sometimes in parties and bands. Often they feed in company with Yellow Wagtails. They do not gather in flocks except possibly for roosting : this seemed to be the case in the reed-beds by the pond at mile 9 on the Delhi-Mathura road where White Wagtails were seen one evening flying up in ones and twos and settling in the reeds, not in the centre of the bed but along its edge where it bordered the water.

In the three years 1943-1945 White Wagtails were first seen in the compound of my hostel in Albuquerque road on 23rd, 14th and 22nd September respectively. Some pitches were occupied more or less continuously throughout their stay. Thus two or three of the birds haunted the hostel compound each year, small ponds might hold one or two each and bigger pools as many as a dozen so long as conditions remained suitable.

The races of White Wagtail appeared to be *M. a. dukhunensis* and *M. a. personata*.

In 1944 there was usually a White Wagtail in the compound of my hostel until 11th April, but it was not always the same bird. As a rule it was a bird of the *M. a. dukhunensis* race but on 5th April it was *M. a. personata*. I saw no White Wagtail at the hostel after 11th April but they continued in the riverain belt although not in large numbers. In 1945 the birds were seen throughout April, although less numerous than in March : only a few individuals were seen in May and these not later than 13th May.

LARGE PIED WAGTAIL.

Motacilla maderaspatensis

The Large Pied Wagtail is resident in the area. It was always met

singly or in couples and close to permanent water. The latter might be a river, a canal, a drain or a pond but temporarily flooded areas did not attract it although they were sometimes visited if near to a regular haunt. There were particular spots where one could be almost certain of seeing it, and it is probable that a haunt is occupied more or less continuously.

The pond at mile 9 on the Delhi-Mathura road was one such haunt. There was a bird there in December and, in January and in the latter month, it was aggressive and was seen chasing away a White Wagtail and then darting at a Common Sandpiper. On 10th May a pair of Large Pied Wagtails were building in a dead tree in the pond. Near the foot of the tree was a large hollow stump and this was the nesting site. One bird arrived with material, seemed very undecided but eventually went in. It came out and went to the edge of the pond to collect more material. It was joined by a bird whose mantle and crown were grey instead of black. This grey bird follows the other as it searches for grass but does not pick up any itself. It flies with the 'black' bird to the nesting hole from which a second 'black' bird now emerges. The birds were at the pond in June and two were seen there in the following November.

Another regularly occupied haunt was the weir at Okhla. On 24th April a pair here was hard at work building a nest under the stern thwart of a rowing boat moored by the weir. The nest was a bulky looking structure. Both birds were at work, but one, presumably the female, was doing far more than the other. She is fetching piece after piece of short dry grass. Sometimes she collects this from a nearby grass bank, at other times picking it up in the boat itself. The male makes far fewer journeys and brings smaller pieces including a piece of bombax down; moreover he seems undecided what to do with the material when he has brought it.

The song of the Large Pied Wagtail — a little 'tweet - weet - weet-weet' — uttered from the ground was heard from January to May.

GREY WAGTAIL

Motacilla cinerea

Only three records, each of a single bird on 23rd September,

28th October and 25th December.

* A scarce winter visitor, occurring from September till March and April.

* **BLACK-HEADED YELLOW WAGTAIL**

Motacilla flava melanogrisea

Possibly a winter visitor in small numbers, but chiefly observed on the spring migration in March and April, when small numbers in full spring plumage may be found near pools and jheels or near the river.

* **ASHY-HEADED YELLOW WAGTAIL**

Motacilla flava thunbergi

Some probably spend the winter in the district, but most are seen as passage migrants, especially in April and in the first half of May. They are often found with flocks of Sykes' Yellow Wagtail. The ear-coverts and sides of the head are black, so that this bird is easily confused with the Black-headed Yellow Wagtail. The crown and nape in this species are blue-grey or ashy-grey.

* **SYKES' YELLOW WAGTAIL**

Motacilla flava beema

A very plentiful winter visitor and still more abundant as a bird of passage in March, April and May, when most individuals are in full plumage, showing beautiful blue-grey heads, white eye-brows and white chins, contrasting with the bright yellow under parts and green back. Many can often be found on dry ground under *acacia* or other light tree groves, as well as in meadows and swampy ground. They not infrequently fly up into the trees when disturbed.

YELLOW-HEADED WAGTAIL

Motacilla citreola

This Wagtail is never away from water. It was met by the river, along canals and drains, by swamps, jheels and reed-beds, by pools

and flooded areas. Usually it was close to the water's edge tripping along the surface of half submerged water weeds supporting itself occasionally by a few wing flutters.

In some haunts — the Gurdwara and Khizarabad canals for instance — the Yellow-headed Wagtails were usually met singly, occasionally in couples. In other places — along the river, by jheels and swamps about Okhla weir — they were also in parties and bands and once near Okhla as a scattered flock. Often the Yellow-headed Wagtails were with other Wagtails. Very often one or two *M. citreola* were seen with a larger number of *M. alba* or of *M. flava*, sometimes with both.

The Yellow-headed Wagtails probably arrive in September, the first of them perhaps in the first half of that month. I thought that the numbers increased in March, swelled perhaps by birds coming up from the south and then fell off. By mid-May they had left.

In their winter dress the yellow eye-stripe is a good recognition mark. There may be some yellow on the forehead and about the eye, but this was by no means always noticeable. Here and there a bird will have some yellow on its breast.

In February birds may be met with bright yellow heads. One bird seen on 13th February had the whole head yellow and also the under parts. Individuals with yellow heads were met throughout March although the amount of yellow varied. In this month and, particularly in its second half, individuals in full or nearly full plumage were to be seen. Birds seen in May were mostly in full plumage and looked brilliant — the whole head and under parts are a rich yellow and the mantle is black.

*Two sub species appear near Delhi, *M. c. citreola* and *M. c. calcarata*. The former is much the more plentiful and always has a grey back, with only a slight collar of black. Most of these have passed through the Delhi district by mid-April. The black-backed *M. c. calcarata* begins to appear in early April and most of the individuals seen in May are of this sub species. The greyish back is a convenient means for identifying the species during the winter.

* FOREST WAGTAIL.

Dendronanthus indicus

One seen near Okhla in September.

TREE-PIPIT

Anthus trivialis

Tree-Pipits are winter visitors fairly plentiful in woods and park-land. They are usually met in small parties on the green below the trees into which they fly when disturbed. I missed their arrival : they left, I thought, during April.

INDIAN TREE-PIPIT

Anthus hodgsoni

I may have missed this Pipit, but it did not appear very numerous. Small parties were seen in light woodland from September to March. The Indian Tree-Pipit is usually on the ground: when disturbed it flies up into a tree. The bird has a habit of wagging its tail slowly up and down.

BROWN ROCK PIPIT

Anthus similis

I saw this Pipit on only three occasions — a single bird among the ruins of Tughlakabad, a couple on a rocky ridge overlooking Arungpur and another couple among the rocks near Suraj Kund. These records were in November and December. The birds do not fly far when disturbed. One bird makes an almost vertical jump of a foot or two off the ground.

* This large and dark-coloured Pipit—the only species in the Delhi district with tawny-buff under parts—is a not infrequent winter visitor in stony and arid country.

INDIAN PIPIT

Anthus rufulus

This Pipit is a resident species. It is not numerous and is usually met singly or in couples, occasionally in small parties, in the waste land and areas of short grass. Dry areas are preferred but it was also seen near jheels.

The only nest found was not far from a small swamp. On 3rd June a Pipit was noticed with food in its bill; after alighting the bird takes a very devious course and then slips quickly into a tuft of grass about 15 yards from where it had landed. In the tuft is a well concealed nest, a deep cup of grass, containing four hairy nestlings. The adult had been very quick feeding the nestlings and left without any pause. It was back again a moment or two later with its bill full of food and stood waiting a few yards away.

TAWNY PIPIT

Anthus campestris

The Tawny Pipit is a winter visitor frequenting areas of short dry grass and bare earth in the open country : once I met it on the plough. It is not a numerous species and was usually met singly or in couples : now and again a small party of the birds was seen.

* It can best be distinguished from the Indian Pipit by its larger size and distinct double call-note — The Indian Pipit usually utters a single note only when it flies up.

* RED-THROATED PIPIT

Anthus cervinus

One identified at Okhla in May 1949. It was in company with Indian Pipits, and its strongly marked plumage, heavily streaked above and below, together with its size — smaller, if anything, than the Indian Pipits, seemed to point to this species.

*** WATER PIPIT***Anthus spinoletta*

Not uncommon in winter (October to April) along the edges of jheels. A rather large, dark Pipit, greyish on the back, and heavily streaked with black on the mantle and sides : usually utters a single note when it rises, and perches again 30 yards further on by the jheel.

*** HODGSON'S PIPIT***Anthus roseatus*

Frequents very similar localities to the Water Pipit, and not easily distinguished from it. But this bird is a warmer brown on the mantle, and in spring-time shows a very conspicuous pale eye-brow (the Water Pipit has a narrower white brow too) and a pink, unspotted throat. The call-note is similar, but weaker.

*** SKYLARK***Alauda arvensis*

This species, common in the Northern Punjab, occasionally reaches Delhi in mid-winter. Its flying "chirrup", familiar to every English observer, immediately calls attention to it as it flies overhead. On the ground it looks a good deal paler and larger, and the crest is more pronounced than in the Little Skylark.

LITTLE SKYLARK*Alauda gulgula*

The Little Skylarks are resident and occur plentifully in open grass land, in fields of corn and other crops and on the plough. They occur singly, in couples and in parties.

The song of the Little Skylark may be heard in most months of the year, but is most noticeable in the spring and early summer.

A bird will mount singing into the air, climb with rapidly beating wings and then drop gradually, losing height at first by short falls, then by longer descents till it is just above the grass when it flies always low.

No nests were found, but birds with grass in their bills were noticed in March and May.

SHORT-TOED LARK

Calandrella brachydactyla

The Short-toed Larks are winter visitors. They were usually met on the stubble and plough but also visited rivers and jheels. They were always in flocks. A flock flying across the stubble may seem uncertain where it wants to go, and will change direction several times before settling. Once down and feeding the birds move fast over the ground.

The Short-toed Lark has a rather rufous crown and a white eye-stripe : there is no crest and there are no streaks on the breast but there is a blackish mark on either side of the breast.

SAND-LARK

Calandrella raytal

The Sand-Lark is a resident species which haunts the river and the sandy plough in its immediate vicinity. It is usually found on the sand close to the water and may be in small parties. Ten was the largest gathering seen, singly and in couples.

In March they were commonly in pairs. The male of one pair was displaying to its mate : with short crest, tail expanded and rather dragged on the sand the bird sang and flicked its wings showing the white edges of its tail.

Fledglings were seen on sand-banks on 23rd April and 21st May.

* The Sand-Lark has a typical lark song, uttered in the air, not unlike the Little Skylark's song, but more scrappy.

*** RED-WINGED BUSH-LARK***Mirafra erythroptera*

A resident species, fairly common in stony scrub land. Individuals often sit on the tops of bushes, from where they utter their curious little wheezy song.

CRESTED LARK*Galerida cristata*

A resident species frequenting the open country with some preference perhaps for bare earth rather than grass. It was found on plough, stubble and in young corn and was usually met singly or in couples. The Crested Lark sings from the ground, from bushes and in the air. On 5th December a male was displaying to its mate : with crest erect, tail dragging and wings half opened it was uttering short snatches of song.

*** RUFOUS-TAILED LARK***Ammomanes phænicura*

Single birds or pairs occasionally seen near Tughlakabad and at Suraj Kund.

ASHY-CROWNED FINCH-LARK*Eremopteryx grisea*

These birds frequent dry open country where the grass is short and also plough land. They are usually met in small scattered parties but on one occasion in December I came upon a band of more than 20.

On the ground they run about actively ; they fly off with a bouncing flight. They sing on the wing. No nest was found but a bird looking like a juvenile was seen in November. The species is resident.

The male has black under parts and white cheeks, the latter being more or less framed by a black line above, a black spot below and the black throat : the crown is light and the upper parts are grey-brown. The female has no black.

*** BLACK-CROWNED FINCH-LARK***Eremopteryx frontalis*

Has been identified in the Najafgarh area.

WHITE-EYE*Zosterops palpebrosa*

White-eyes are lovers of leafy foliage. They live in small parties frequenting gardens, tree-bordered roadsides and light woodlands. In these haunts they are to be seen in the tree-tops and amongst shrubs and occasionally in low herbage. White-Eyes often examine flower blossoms and in the process their foreheads sometimes get tinged orange-red from the pollen. Sunbirds feeding at the same flowers did not get marked in this way presumably because of their longer bills. Birds working through foliage sometimes utter a shrill wheezy call.

The White-eyes nest in May and June. One nest, a flimsy structure on the outermost twigs of a leafy tree in a garden had three eggs at the beginning of June. Another nest was in a *Ficus rettusa* by the roadside.

PURPLE SUNBIRD*Cinnyris asiaticus*

Purple Sunbirds were met almost everywhere except on grassland. Singly, in couples, parties and bands they visit a wide variety of trees and shrubs. The larger gatherings were particularly noticeable in July, August and September after the breeding season but occur at other times. About two dozen Sunbirds — the largest gathering seen — frequented a large flowering clump of *Hammalia patens* throughout August and part of September. This shrub is very popular with the Sunbirds and a clump flowering in May was usually full of the birds, hovering now in front of one flower now before another. Amongst the blossoms visited were the pink flowers of *Capparis aphylla* (October and June), the scarlet blossoms of *Erythrina suberosa* (May), the flowers of *kigelia* (May) and of *asha* (May) and

moringa blooms (March). These can be only a few of the flowers the Sunbirds visit.

Winter plumage is worn by the males from sometime in August probably until about January. In this dress the males are very like the females, but may be distinguished by the black-looking stripe down the yellowish under parts from chin to abdomen.

A male in almost full breeding dress was reported as early as 21st November but this was exceptional. Males in partial breeding plumage with varying amounts of metallic bronze on the rump, neck, forehead and crown and sometimes also of bluish on the under parts were about in December as well as one or two birds in full dress : by February all the males had their breeding plumage. It was in February that I first noticed the bright crimson and yellow patch under the wing : it is not a very noticeable feature unless a perching bird stretches itself.

Early in August male Sunbirds were losing their summer plumage. Some of them had their upper parts still more or less metallic, but their under parts were yellowish save for the dark central stripe. By the middle of the month most of the males were in undress or nearly so and a bird seen as late as 27th August with traces of breeding plumage was exceptional.

Nesting began in February and continued into June and possibly July. The first nest was found on 18th February. It was in a dried-up plant hanging from a bank over a masonry wall. The female was building. She flew for material now to a *Capparis aphylla* bush, now to a palm and sometimes further and out of sight. She is at work on the outside of the nest, gradually reducing the size of the entrance which is too large. She is never at the nest longer than ten seconds and is often away for over a minute. The nest is mostly of white down, little pieces of which are lodged in the caper. The female goes on with her building unperturbed by my presence within six feet of her nest. There was no sign of the male. On 25th March there were two youngsters in this nest.

The nests were in a variety of situations but were usually suspended in some way and at no great height above the ground. I found them hanging from a thorn bush some three feet above the ground, in a briar hanging down a well shaft, suspended from a drooping twig in a

very open bush about two feet six inches up and not at all well concealed, in thorny capers and in small babools. It was nearly always the female who did the building. Only once did I see a male at work ; sometimes the male would be perched nearby, often it would not be seen.

On 21st May I came upon a Sunbird busy making a loose handful of cotton waste caught on a sisaban twig into a nest. The sisaban which was hung with pieces of rag and cotton was among caper bushes and small babools. The Sunbird, a female, flies back and forth between the nest and a caper bush about 20 yards distant. At first I could not see that she was bringing anything to the nest but she was making open-mouthed snatches at something in the caper bush and occasionally hovering in front of a twig. I found there were tiny pieces of down lodged on the twigs and the Sunbird was collecting these. At the nest she merely stayed long enough to poke in what she had brought and then flew back for more. The cotton waste was adorned with little bits of dry herbage and with fluff : the entrance was near the top and in the side.

A nest which was being built on 24th May had young on 1st July and the male arrived to feed them. On 6th June I saw a female searching a babool and a fledgling perched in the same tree : she finds something and feeds the youngster : the latter is plump-looking and is pale yellow underneath.

On 4th June a Sunbird female is at work on her nest slung from the curving stem of a thorny caper at the foot of a tree in which a pair of Fantail-Flycatchers have built, whilst in the next tree two Honey Buzzards have their nest. The Sunbird is getting material on the ground beneath a thorn bush about 20 yards from the nest. I am almost in her path but she does not mind. She is at the nest 5-8 seconds at a time and away for 20-25. On 11th June there are three eggs in this nest and on 18th June I see the female sitting, her tail and part of her head protruding from the hole.

* THICK-BILLED FLOWER-PECKER

Piprisoma agile

Single birds observed on the Ridge, Old Delhi.

* TICKELL'S FLOWER-PECKER

Dicaeum erythrorhynchos

Seen in Qudsia Park, Old Delhi, in the Lodi Gardens and possibly in other localities. Probably a winter visitor.

* INDIAN PITTA

Pitta brachyura

One or two records from gardens in New Delhi.

MAHRATTA WOODPECKER

Dryobates mahrattensis

The Mahratta Woodpecker was not a numerous species, but it occurred generally in woods and light babool. Except on one occasion, at the end of May when three of these Woodpeckers were in an old tree, the species was always met either singly or in couples.

The upper parts are black and white : the crest and a patch in the middle of the belly are scarlet.

GOLDEN-BACKED WOODPECKER

Brachypternus benghalensis

Woods and parkland are the haunts of the Golden-backed Woodpecker which is usually found amongst rather larger trees than those which the Mahratta Woodpecker frequents. The birds are met singly, in couples and in parties of three or four. Individuals perhaps range fairly widely, but favourite haunts are visited regularly. A group of large babool trees in the Lodi Gardens, and one of these in particular, was an example. The Woodpeckers seemed to fly there when they first awoke in the morning and for at least four months (August - November) one could be almost certain of finding them there, sometimes one or two birds, occasionally three and once four. In the early morning they would not be searching the bark but would be standing about as it were, preening perhaps, though rather

casually and they usually flew off one by one. As they were seen in the same tree about sunset it may have been that they roosted there or close by.

No nests were found, but in May the Golden-backed Woodpeckers were usually in couples, flying by one after the other, and often calling. On 5th June three were on a green on the golf links — all had red crests and yellow backs, but whilst one of the group seemed to be leading and doing the probing and digging, the other two hopped along behind expectantly and may have been youngsters.

WRYNECK

Jynx torquilla

Wrynecks are winter visitors arriving at the end of August and in early September and leaving at the end of March and in early April. They occurred widely over the area but never numerous, preferring light babool and waste land.

The Wryneck was always met singly. It is not a conspicuous bird. You get a glimpse of a small bird flying from one tree to another or up from the ground into a tree, or into a bush and down to the ground and then on to another bush — there is nothing in the plumage to catch the eye. But the bird does not go far as a rule, and can be followed up and identified through glasses.

I never saw more than two Wrynecks in a day. Some of their haunts, notably a babool plantation near Okhla, were perhaps occupied by the same birds throughout their stay. The earliest date it was seen was 29th August and the latest was 2nd April.

GREEN BARBET

Thereiceryx zeylanicus

The Green Barbet is heard more often than it is seen. Its 'cu-curruk' calls are familiar sounds throughout the year but are most frequent from February to June. In March I thought them the dominant noises of the Delhi roads, and at times the 'cu-curruking' in a garden would be almost continuous for quite a while. Often

the call of one bird is answered by another and regular duets are held. Sometimes the 'cu-currucking' bursts forth as a sudden chorus.

Green Barbets are birds of the leafy trees and are usually found therefore in gardens and parks and about the tree-bordered roads. A nest in a garden was said to have young in June. A new nesting hole on the under side of a babool limb at which a Green Barbet was said to have been working was seen in January.

COPPERSMITH

Xantholaema Haemacephala

Coppersmiths are rather more plentiful than the Green Barbets. They are birds of the babools, too, rather than of the leafy trees. They frequent woods, parklands and gardens and also the tree-bordered roads, occurring singly and in couples and quite commonly in small parties.

They seem to have favourite tree-tops which they use regularly. One such tree just outside the Lodi Gardens was in daily use by two of the birds, and one November morning I saw six of them on it. A pink cassia held seven Coppersmiths on two successive days : it was in June and the gathering was possibly a family party. The birds usually occupy the top-most twigs.

Although the Coppersmiths 'poop-poop' may be heard in any month, from February to August its calls are heard daily and throughout most of the day. In September the birds are noticeably less noisy and in October they become nearly silent.

In March two Coppersmiths were in a tree and the male was displaying to the female : she sits quietly while he opens and closes his wings with a quiet flicking motion but does not call. Nesting begins perhaps in April. Birds were seen at their nesting holes — all in trees — in May and one nest appeared to have young as both the owners were going back and forth to it.

In September a large fig tree bearing clusters of small red figs attracted a number of birds among them several Coppersmiths. Some of the latter showed no red on the throat and forehead, and may have been juveniles.

BLUE-JAY

Coracias benghalensis

During the winter (October — January) the Blue-Jays seem to scatter widely over the area and are met singly, individual birds occupying commanding perches. They are not very numerous, a dozen of the birds was about the most met in the course of a day's walk. Perches on the telegraph wire and also positions quite low are used. Individuals and possibly two or three birds together roost in trees.

In February there were signs of pairing. The Blue-Jays became more noisy — the call is '*tac-tac-tac*' — and couples sweep through the trees in squawking display flight. In March it looked as if pairs had taken up their nesting quarters. In the Lodi Gardens there were three pairs, two about the centre tomb and one at the northern tomb. At first the birds would be seen about the tomb, uttering '*tac-tac*' calls from the top, or flying round them cawing and swooping and scattering the Rock Pigeons on the dome. The display flights — steep dips and rises, stall turns from which the birds come out to the front — always to the accompaniment of noisy calling continued through April. By the end of this month the birds were obviously nesting. They were seen flying to holes in walls. Nesting continued through May and June and perhaps into July. In May a pair had their nesting hole not far from a ledge where a pair of Neophrons had theirs. When, as often happened, one of the Neophrons would perch on a wall too near the Blue-Jays one of the latter would make repeated stoops at it causing it to duck each time.

Display flights — steep descent followed by a rise, repeated several times — continued until August and even later. In fact aerial acrobatics of this sort are indulged in throughout the year and in the winter three or four of the birds might make the flight together.

In September they were still in the gardens : five perched and perhaps roosted there regularly, always in more or less the same spot and farther on another party of three. These may have been family parties.

Besides the '*tac-tac*' call another — a short '*eh-eh*' was heard in October.

GREEN BEE-EATER

Merops orientalis

The Green Bee-Eater is a resident species. It lives in bands numbering from a dozen to as many as 30 birds, although the latter is perhaps unusually large. A band will frequent a particular locality for a time, in some cases for several months, and will then move elsewhere, although possibly not far, since the old haunt is often reoccupied later.

The haunts are very varied : amongst those regularly used were the Lodi Gardens, tree-bordered roadsides in New Delhi, the Aliganj Nursery, the Khizarabad canal near Gurdwara, the canal plantations near Okhla, the vicinity of the Azimgarh Serai, the railway embankment by Humayun's Tomb, Tughlakabad, the Rajput Dam, the Rajput Lake, and the banks of the Jumna and the Hindan rivers.

In its territory the members of a band will scatter considerably to feed and will be seen in ones, twos and threes. Perhaps they keep in touch in some way. Towards sunset a band will collect again, preparatory to flying off to roost. The collecting place may be a tree top or a telegraph wire, and the gathering birds usually utter a characteristic chatter. Then they rise together almost vertically, and make for their roost which is often a leafy tree.

These Bee-Eaters are fond of bathing : a bird will fly down from its perch and apparently drop into the water with quite a splash although it does not go under ; then it flies back to a perch and shakes itself. Sometimes, when hawking by a pool, bird after bird will dip to touch the water. The birds are also fond of dust baths : I came upon one party, a dozen strong, packed close together—a splash of living green on a heap of brown earth.

Mating was noted first on 20th February : it was by a couple on the telegraph wire. After the act they sit side by side for a moment, then the male flies up almost vertically, turns over and comes back in a floating waving descent. They mate again. Another pause, then both fly down and settle on the ground.

In March birds from a pre-roosting gathering were noticed quivering their tails rapidly as they uttered their characteristic

chatter and now and again a couple, possibly a pair, would fly down to settle on the ground.

Nesting was noticed in May although it probably began earlier. It would seem that the band scatters for this, pairs nesting individually although possibly within the territory of the band. On 20th May a Bee-Eater dropped from a bush straight into a nesting hole alongside. The hole was in the side of a small hollow made by the removal of a few spade-fulls of earth and was nearly circular. No other holes were seen nearby.

On 23rd May a bird flew from a hole in a bank by a roadside. On 24th May two holes were seen close together in a small excavation; a Bee-Eater flew from one of them. Bee-Eater bands were flying to roost in nesting areas so it appears that couples temporarily leave the band to nest.

Fledglings were first seen on 27th May. A bird flew to a hole in the side of a shallow pit by the Hindan river : when it left, another bird peered from the hole and presently flew out and joined two other fledglings on a telegraph wire above. Two adults were hawking insects nearby.

Fledglings were often seen in June, being fed by adults in tree-tops, on the telegraph wire, on rails and other perches. The bands were now forming up again and in some cases are moving to fresh territories. There are young birds to be seen in the bands. The young birds lack the black gorget line ; they have whitish throats and breasts and are without the long tail 'spikes' ; their bills are straighter and their upper plumage is brown rather than green. Youngsters were still noticeable in July : the latest date a fledgling was being fed was 27th July.

The throat of the adult Bee-Eater is a bright blue-green. White butterflies were taken by these Bee-Eaters, also red dragon-flies.

* Delhi is near the northern limit of the winter range of the Green Bee-Eater. As a rule very few remain in the district in mid-winter. From late February onwards numbers pass through on migration to more northerly areas from which they have been absent in winter. It must be presumed that some of General Hutson's bands were migratory parties, not resident birds.

BLUE-TAILED BEE-EATER

Merops superciliosus javanicus

BLUE-CHEEKED BEE-EATER

Merops superciliosus persicus

These two races occur as passage migrants, *persicus* being much the more numerous. Both are to be seen at the same time of the year but no mixing was noticed. Whilst *persicus* hawked over jheels and flooded areas, *javanicus* kept to drier places and was chiefly met by woodlands.

The Blue-tailed Bee-Eater went north at the end of May and during the first three weeks in June. Its return was more leisurely, lasting from August till mid-November. The Blue-cheeked Bee-Eater seemed to travel a little earlier in the spring and did not stay so late in the autumn. Its southward passage was far from being a continuous movement, and some bands made prolonged stays. One of them which frequented a strip of woodland on the edge of the Lodi Golf Links was to be seen on the telegraph wire there for quite a month (10th September to 8th October).

These Bee-Eaters travelled, as others of their kind do, in small flocks or bands few of which are more than 100 strong, the majority being Blue-tailed Bee-Eaters. Probably about twenty is the most usual size for a band, and the larger gatherings seen are caused by piling up at halting and roosting places. The birds fly fairly high up and are generally heard before they are seen. The fact that they call as they fly, by night as well as by day, when feeding as well as when travelling, attracts attention to their passage and they are not easily missed. When they come down to feed they look for vantage points in open country. Telegraph lines and commanding trees are much patronized. Usually, too, a band will scatter considerably to feed, spreading along a telegraph wire, so that there will be perhaps only one bird to a bay. No doubt the almost continuous calling of the Bee-Eaters is of value in enabling individuals to keep touch.

The Blue-cheeked Bee-Eaters went over Delhi principally in the early morning on their spring migration. Possibly the birds seen had roosted in the vicinity and flew off just before sunrise.

Butterflies and dragon-flies seemed a chief food of *persicus* and it would hawk from almost any position, from telegraph wires, tree-tops, bushes and even from the ground. *Javanicus* used only the more elevated vantage points such as the telegraph line and tall tree-tops and, on the whole, hunted higher. Both species would normally bring back their catch to the perching place and eat it there. This was to be expected, since the victim often required a lot of biting and squeezing before it could be swallowed.

One afternoon in mid-October I came upon a gathering of *Merops superciliosus persicus* hawking butterflies from some sand-banks in the Jumna river. There must have been over a 100 Bee-Eaters, and the butterflies, white ones mostly, were flying down and across the river in large numbers. The Bee-Eaters had two methods of hunting. Either they would beat back and forth over the water in the hope of coming upon a butterfly, or they would wait on some low perch, a piece of jetsam or on the sand itself. The majority of the butterflies were flying quite low. Some of them crossed the sand-bank only a foot or so in the air. The Bee-Eaters on the sand-banks could sweep straight at these low fliers. The bird likes to come at a butterfly from below and take it on an upward glide which is often very steep at its finish. When one of the Bee-Eaters which is flying to and fro sees a butterfly it dives down below and then sweeps upwards. If it misses, other attempts may be made; but often there is only the one. The deciding factor is probably the height of the prey above the water or the ground. Frequently several Bee-Eaters chase the same butterfly. Even so, if the insect loses height it may get away but if, on the other hand, it is forced upwards one of the pursuers is sure to catch it. Despite the butterfly's weak flight, its erratic course up and down and wobbling from side to side evidently make it a difficult target and misses are many, even by several Bee-Eaters in succession and, when the butterfly is caught, all may not be over. I saw one that was missed twice and then taken. It got away. Another bird took it and again it escaped. Then it was seized by a third and this time eaten. It seems that the

Bee-Eater does not always grip its victim securely at the first attempt, and in opening its bill to get a firmer hold the butterfly is sometimes freed.

The easiest way of telling the two races apart is by the presence or absence of white on the forehead and above the bill. In an adult *Merops superciliosus persicus*, this white is conspicuous, and with a little practice can be picked out on a flying bird. It is entirely absent in the *Merops superciliosus javanicus*, whose plumage shows white below the bill but not above it nor on the forehead. The difference in the colours of the tails—green in *Merops superciliosus persicus* and blue in *Merops superciliosus javanicus*—is too dependant upon the incidence of the light and frequently does not show at all. The white is not very conspicuous on the juveniles but there will usually be some trace of it on the forehead, and this can be picked out on a perching bird. I have never, however, found a band without some adults, and these should be looked for where any doubt as to identity exists.

PIED KINGFISHER

Ceryle rudis

The Pied Kingfisher is a bird of the rivers and canals although it will visit ponds and jheels in their vicinity, and I once saw one diving in a flooded field. It was most plentiful along the Jumna and the Hindan rivers : I counted 18 in the course of a day in the riverain belt. The birds occur singly, in couples and in small parties : seven was the largest number seen together but four or five in a tree on a bank, on a projecting branch or some other perch was not uncommon.

A bird fishing may make a succession of dives, all apparently vain, with little interval between each: the bird would come up from its dive, fly back a short way, hover, shift station a little, up-end and then dive again. When a fish is taken it is carried to a perch, probably given some violent shakes and then swallowed.

The breeding season is from January, or possibly December till April during which period the rivers are low and the banks available for nesting. It was on 5th December that I saw what seemed the first

sign of nesting : three Kingfishers were perched at the foot of a vertical bank near the top of which were several holes, and every now and again one of the trio would fly up, cling outside a hole for a moment or two and then come back. In January couples were seen flying along, one bird after the other, uttering 'peep-peep' calls : they may well have been pairs. In February there were more signs that the Kingfishers were paired and I saw one bird making a sort of display flight before its mate who was perched on a rootlet projecting from the bank. The displaying bird flew to and fro just above the other, at first with short swoops but gradually lengthening these and always at the bottom of each passing just over the head of the perching bird.

On 11th February a bird on a projecting rootlet seemed to be trying to sing. Below it in the bank was a hole, semi-circular in shape and a second Kingfisher entered this, soon coming out with what looked like a pebble which it drops outside then re-enters the hole and scrabbles out earth whilst the bird outside 'sings'. On 25th February a Kingfisher flies from a hole in a bank, joins its mate who is waiting nearby and the two fly off. It may be that only the female does the excavation.

Kingfishers were seen entering and leaving nesting holes in March and April : often the mate is perched nearby. In one case where a bird had emerged from a hole and is joined by a second, a third flies up and all perched together. This may have been a family. Parties of four or five seen in May, June and July were probably families.

COMMON KINGFISHER

Alcedo atthis

The Common Kingfisher is the least plentiful of the three Delhi Kingfishers. It is also the least noticeable in spite of its bright plumage. Its comparative inconspicuousness is partly due to the fact that it does much of its fishing by waiting quietly on a low perch over the water, and that the need for such perches leads it to choose haunts which usually have a certain cover. The reed-bed area by Okhla was one such haunt and here the bird as often as not would be found on a reed overhanging the water. The Khizarabad canal was

another haunt and here the bird might be in a tamarisk or babool just above the water. When it changes station it flies off low just above the water.

One regular haunt—the vicinity of the weir at Okhla—did not afford much cover, and here one often found the Kingfisher at the foot of the fish ladder : it was noticeably tame. When it visits flooded fields, as it often does, it will perch in the open, sometimes low down on the stay of a telegraph pole, on a post in the water or high up on a telegraph wire.

The Common Kingfisher dives from a perch into the water with a quick sideways plunge and this is probably its usual way of fishing. The bird also hovers over the water and then dives, but unlike the Pied Kingfisher it usually flies from its perch, hovers, dives and then perches again : only occasionally does the Common Kingfisher hover several times in succession.

Except in the breeding season the Common Kingfisher is always met singly : couples, presumably pairs were noticed in March and June.

WHITE-BREASTED KINGFISHER

Halcyon smyrnensis

Except in the breeding season this Kingfisher is always met singly. It is to be found along canals and drains, by ponds and jheels and also in gardens. It takes its prey by swooping from its perch in a tree or on the telegraph wire. I have seen it take a small fish from a jheel and a frog from the shallows of a pool. It rarely hovers except perhaps to pick something off the water.

Nesting begins probably in March. Holes in canal banks are a common situation, but pairs will nest well away from water. One pair was back at a site they had occupied the previous year early in March. One or other of the couple perched regularly on a telegraph wire across the road from a small sand pit. The hole was in this pit. The pair were in this haunt throughout April and May and into June. On 21st June a fledgling from the nest was in a tree about 100 yards from the sand pit and next day three youngsters were in the tree. They and the two adults continued in the vicinity till the end

of the month.

Pairs were noticed about nesting sites from early in April. On 28th April a pair was reported excavating a hole in a garden. Throughout May birds were seen entering and leaving nesting holes; nearly all the sites were in canal banks; some five pairs were noticed along a couple of miles of the Okhla canal.

This Kingfisher is a white-bibbed bird with a powerful red bill, a square cut tail and deep rufous head, neck and under parts. Its call is noisy.

GREY HORNBILL

Tockus birostris

The Grey Hornbill is a resident but not very numerous species frequenting the larger trees, its haunts and movements determined to some extent no doubt by the fruiting seasons and locations of the trees it favours. I have seen it feeding upon several species of fig including the peepul *Ficus religiosa* and the *Ficus tsiela*, upon jambolana fruits and on bombax blooms. Neem trees are much frequented and I think cultivated fruits such as loquats are taken.

I thought the Grey Hornbills became less common between February and August; this may have been due to a scattering for breeding. In mid-October I came upon what may have been some form of local migration: there were about eight birds in all, the largest number I ever saw together: three of them were on the telegraph wire, three more flew up and then two others; the whole party flew on in straggling fashion from tree to tree. They did not seem to be feeding.

The Grey Hornbills were usually met in ones, twos or threes. A party of about five haunted the Aliganj Nursery throughout April but were seldom seen all together.

The call is a shrill but weak 'pee-yee' not unlike the noise made by a 'dying top'. When more than one bird is about, they usually fly one after the other.

April is perhaps the month when nesting starts. Twice in that month I saw one bird fly up to another and give it a berry. On 23rd April a Grey Hornbill dipped across the Lodi Gardens to a large

neem tree which had been a favourite haunt the previous year ; the bird clung to the trunk close to a hole high up for a while and then made off. It did the same thing on several other days in April and also in May. Sometimes it seemed to be pecking at the hole. I never saw it go inside.

On 23rd April at Okhla, two Grey Hornbills flew into a neem tree on the canal bank. One of the couple preened leisurely ; when it wanted to get at the feathers by the vent it reached round the branch on which it was sitting. Presently it hopped across to inspect a hole in the main trunk. Either this hole or another near it belonged to a pair of Parrakeets which are also in the tree and evidently agitated at the Hornbill's actions. The Hornbill resumed its preening for a while and then had another look at the hole. All the time its mate remained near the top of the tree.

On 23rd September a bird which may have been a juvenile was in a tree uttering shrill cries.

*EUROPEAN HOOPOE

Upupa epops epops

A winter visitor, fairly common in cultivation and open country. Earliest date September 30th.

INDIAN HOOPOE

Upupa epops orientalis

Hoopoes occur generally over the area. There are two forms : *U. e. orientalis* which is resident and *U. e. epops* which is a winter visitor. They are not easily distinguishable, but birds were noticed showing more white between the black tips of the crest feathers and the fawn bases and these were thought to be *U. e. epops*.

The characteristic 'wut-wut' call of the Hoopoe is to be heard almost throughout the year. Only in June, July and the first half of August was it missed. In all the other months calling begins at sunrise or a few minutes before and can be heard, although not

perhaps to the same extent, throughout the day. The usual call is three-syllabled — 'wut-wur-wut' but four and two-syllables are common, and five is sometimes heard. The same bird will use four, three and two syllabled calls.

The Hoopoe is met in ones and twos and also in parties : the largest number seen together was eight. Signs of nesting were first noticed in March. Hoopoes were in pairs then and some of these seemed to be choosing nesting sites — holes in buildings and ruins, in trees and drain pipes. Couples were chasing one another with many twists and turns through the trees and one instance of what looked like courtship feeding was noticed. A Hoopoe with something in its bill alighted on a wall and was joined there by a second bird. The latter which I took to be a female half squatted whilst the other offered it food which it had brought. The female opened its bill to receive the food but this was withdrawn and for several moments this procedure went on, the male putting its bill into the open mouth of the other and then taking it out. The to and fro motion became almost mechanical. No excitement was apparent, no raising of the crest. In the end the female got the food I think, and then both birds flew down to the ground.

There was more visiting of nesting holes in April and sometimes food was apparently brought, presumably for a female inside. In this month I saw what may have been a display flight : two Hoopoes rose from a roof as if in flight, bills touching and wings flapping. They rise vertically, keeping close together. Then they turn and dive down, one after the other. A moment or two later the performance is repeated. I saw the same thing once or twice again in November.

Nesting was still in progress in May. Birds were visiting holes and once or twice others, which may have been youngsters, were noticed peering out. In June family parties were about.

Hoopoes are fond of dust baths. Sometimes they take them singly, sometimes as a party. It is often a very thorough affair. A bird will alight on a footpath, peck at the ground, find it a bit hard perhaps and move on a few feet until it reaches a suitable spot. Then it squats down, shakes its wings, pivots round, lays its head in the dust and even manages to get its crown there. Dust baths were being

taken in April, June and October. On one occasion in October, seven Hoopoes were taking a dust bath together : this may have been a family party.

I have seen Hoopoes join a party of Large Grey Babblers in mobbing a Rock-Eagle Owl.

The Hoopoe's flight is very undulating.

INDIAN SWIFT

Micropus affinis

Swifts ranged widely over the area in parties and bands usually of their own species but sometimes in company with Red-rumped Swallows or Sand-Martins. They did not appear to keep to particular territories or beats. After March they began to frequent their nesting haunts, not regularly but making occasional visits. In April individuals from a band flying about a nesting site were noticed leaving their companions and flying into the nesting chamber, but it was not till June that nesting seemed in full swing.

These Swifts nest in colonies which are often considerably larger than the parties and bands which have been roaming over the countryside. The most popular sites were the ceilings and roofs of chambers in the ancient tombs and other ruins and also in occupied buildings. Most of the colonies seen were at some height from the ground but one or two were in low chambers not very much out of reach. The nests are built on the under side of curved or flat masonry or plaster surfaces and are in clusters, often indeed in a single mass. Sometimes a colony not so packed is noticed. One such case was a colony built against a flat plastered ceiling ; here the nests were in small detached clusters, the site of each of the latter being a spot where the plaster had come away and so presumably left a surface more suitable for securing the nest. Often all one could see from below would be a greyish mass of feathers and other material high up in the interior of a dome.

One colony of 20 or more nests as judged by the numbers of Swifts about was in the Daskhamba ruin on the Lodi Golf Links. Two of the three domes were occupied by the birds, a packed cluster of nests in each. I do not know when they began nesting but on 25th

June the band, about 40 strong, was sweeping round the ruin; they sweep in through one of the arched entrances and fly up into the top of the dome, pause an instant on the nests, then drop down again and fly out. This was still happening in August.

There was another colony in a small low chamber in the courtyard of one of the tombs in the Lodi Gardens. The Swifts had either not been there or had been paying only irregular visits prior to June, but about the 6th of that month a band took up its quarters about the tomb and were to be seen there regularly. There were nests in the chamber on 26th June but I did not see when their building had started. The Swifts were about the tomb regularly in August. On some mornings the birds would be flying round, none coming near the nests. On other days, at much the same time, Swifts would be flying in and out of the nesting chamber, some of them going into the nests and staying inside, others clinging to the outside for a while, and some merely sweeping into the chamber and out again. On three days — 23rd, 24th and 25th August I saw no Swifts at all at the usual time, but on 25th August the band was back again flying to and fro high above the tomb. In September there was much the same pattern of activity — no birds in sight on some mornings though they might be around in the evening, and on other days individuals would be flying to the nests and sometimes whilst clinging to the outside would utter the characteristic shrill whistle.

On 14th September I saw through one round entrance hole what looked like the head of a bird inside, but whether a nestling or an old bird I could not make out. On 28th September I thought that some of the nests at any rate held young. The colony was still active in October. On 2nd October there were birds in some of the nests and others flying about. On 10th October the nests were still being visited, and on the floor was a broken egg containing a dead chick. This colony was quite a small one — less than 20 pairs.

Other colonies were found in the archway of an old tower near Humayun's Tomb, high up in the arch of a gateway to the Purana Qila, in a small domed chamber in the covered ways outside the Secretariat. These colonies were all active in August and September.

The same sites are used in successive years.

* During the winter months the majority of Swifts seem to leave the Delhi district.

* PALM-SWIFT

Cypsiurus batassiensis

During the past three or four years (1953) Palm-Swifts have been noticed several times flying round and up to some small palms in the Qudsia Gardens, Old Delhi. Apparently they only remain for short periods.

* FRANKLIN'S NIGHTJAR

Caprimulgus monticolus

Has occurred in May near the Timapur Pumping Station, where several were flying round, uttering their "whiplash" cry in 1950, but it does not seem to occur regularly.

INDIAN NIGHTJAR

Caprimulgus asiaticus

The Nightjars come to Delhi as summer visitors, possibly somewhat irregularly for I had very few records in 1945 compared with those of the previous year, and haunts which had been used in 1944 were not occupied in 1945. Some heaps of rubble amongst thickets on the Lodi Golf Links held Nightjars in all three years 1943-1945 although there were fewer pairs noticed there in 1945 than in either of the earlier years.

The Nightjars were met singly, in couples and sometimes, though less often, in threes : birds are to be found in a chosen haunt throughout their stay. Usually I came across them on the ground but there were some regular exceptions to this in the Lodi Gardens. Beside a footpath, which was also used as a riding track, on the evening of 21st August, I came upon a Nightjar sitting lengthways on a horizontal branch which overhung the path. The bird was there nearly every morning for the remainder of the month. And there was a second Nightjar similarly perched about 50 yards along the path. On three days the two birds were in the same tree but on all other occasions

they perched apart. There were some shifts of position, but almost invariably a fairly large and more or less horizontal branch was chosen. Only once was a bird at the top of a twig instead of along a branch. These Nightjars remained by the footpath the whole of September. I saw them in the early mornings just before or about sunrise and in the evenings around sunset. When they did shift position it was either to another branch in the same tree or at most to the next tree, but one tree and one branch was used for quite a while. On one day — 16th September — there was a third bird.

One evening, when I passed a little later after sunset than usual, the two Nightjars had left their roosting branches and were sitting up, very alert, on the tops of short stumps. The next evening I was five minutes later than the previous day and the birds were just beginning to hawk. They flew in and out among the trees and over the footpath. For a while one came back to its roosting tree and made short sallies from it. Then both went further afield.

There were other Nightjars in the Lodi Gardens. On 21st September the setting sun lit up the light wing-bar of one in a larger babool, and I saw another bird in the same tree. One of them was there the following morning, easily picked out in the half light by its silhouette.

Towards the end of September I noticed what may have been a gathering preparatory to migration. There is a patch of *erianthus* grass growing in clumps or tussocks near one edge of the Lodi Gardens. I had flushed a single Nightjar from the ground there on 20th September. In the same place, on the evening of 20th September, I put up quite a dozen in ones and twos from the short grass and bare patches between the clumps. Next morning I put up nine there and also saw three birds in the usual trees by the footpath and another in a tree alongside another footpath. On the 30th I put up two amongst the *erianthus* but did not have time to cover it thoroughly and saw the three by the footpath.

The Nightjars continued to spend their days in the trees by the footpath up to 10th October. I did not see them there the next day or subsequently. In the *erianthus* patch I put up nine on the morning of 2nd October : there were none there on the 5th, in either the morning or the evening, but their absence may have been due to the presence of grass cutters and cattle, for there were four of the

birds there on the evening of 8th October.

On the evening of 9th October I came upon a single Nightjar on the ground in another part of the Lodi Gardens. Its eyes were shut and I walked to within six feet before it was aroused and flew off though only a few yards, showing a rather yellowish mark on the wing.

When a Nightjar gets up from the ground it usually does so with a short clicking 'chut-chut'.

By mid-October I think all the Nightjars had left.

* SYKES' NIGHTJAR

Caprimulgus mahrattensis

Twice observed in scrub country near the river at Old Delhi. This is a small and sandy-coloured Nightjar with a rather short tail.

* CUCKOO

Cuculus canorus

An occasional passage migrant : has been both seen and heard.

* INDIAN CUCKOO

Cuculus micropterus

Once noted in July in a New Delhi garden.

COMMON HAWK-CUCKOO

Hierococcyx varius

The Common Hawk-Cuckoo is a summer visitor arriving about the middle of March. My first record in 1944 and also in 1945 was on 15th March, but I was told of a bird calling on 12th March. On the first of these two occasions I was in the Lodi Gardens shortly before sunset when the Hawk-Cuckoo's ringing call suddenly burst forth. It was started with a series of 'pee-urh's and ended with a 3-syllabled 'pee-peewit'. The calls came from two birds perched inside and about half way up a babool. They were not at all shy. Presently

a third arrived and all three then flew on a short distance and the calling began again. I heard it next morning about sunrise but did not notice it during the rest of the day. For the remainder of the month it was one of the features of the early morning clamour being heard with the cries of the Koel and the Spotted Owlet. It was to be heard shortly before sunset too. My impression was that there were not many of the birds.

All through April the Hawk-Cuckoos called in the early morning, beginning well before sunrise and again about sunset. They called from leafy trees and did not show themselves much.

In May it was the same — they called regularly in the early morning and about sunset. Occasionally I heard them at other times of the day, once at 4-30 p.m. when it was still hot. The calling this month was if anything more persistent and prolonged than previously. Indeed sometimes it seemed that the Koels and the Hawk-Cuckoos were trying to outcall one another. Always the early morning was the noisiest period. The birds kept very much to the trees. When one did move out it was usually a case of only a few flaps followed by a sail into another nearby tree.

In June I thought the calling became irregular. Instead of the full refrain, shortened versions omitting perhaps the opening '*pee-urh*'s or, alternatively, uttering these only were heard; and there were days and perhaps periods of days when the call was missed altogether.

There was a further decrease in July during which month the Hawk-Cuckoo was heard only occasionally. In August up to the middle of the month I usually heard one bird in the early morning, sometimes before daylight but after that there was only one record; an evening call on 28th August. But the Hawk-Cuckoos had not left, for I heard it in September both in the early morning before it was full light and just after sunset.

I think the Hawk-Cuckoos left about the end of September. On 30th September 1945 and 1st October 1944 I came upon single birds in places where I had not seen any of them during the summer: it was in the riverain belt on each occasion and the bird was silent. One was flying rather furtively along the edge of a babool plantation and the other flew from a babool near Gurdwara, perched on a

millet stalk then dropped to the ground. The Hawk-Cuckoo was met in the gardens and along the tree-bordered roadsides of New Delhi, in the Aliganj Nursery, the Lodi Gardens and the Lodi Golf Links. Its pose when perched in a tree is more upright than that of the Koel.

PIED CRESTED CUCKOO

Clamator jacobinus

The Pied Crested Cuckoo is more numerous and also less restricted in its haunts than the Common Hawk-Cuckoo. It was met in gardens, in woods and in the scrub country. It is the last of the Cuckoos to arrive in Delhi, not appearing until June.

My earliest record was 4th June. On that day I came upon two Pied Crested Cuckoos in a caper thicket on the golf links. The time was shortly before sunset. The two birds were silent. Further, they let me approach quite close and then flew on only a few yards. Possibly they had just arrived and were tired. Next day at much the same time, and also on the golf links, I came upon another of the birds and it too was silent. But on 6th June the situation on the golf links in the evening was very different. There were several Cuckoos there and all were noisy and alert. They were calling 'pee-yip' and 'pee-pee-pee' and chasing one another. When a bird alighted in a tree it would expand its tail with quick flicks showing the white dots round the end. In flight the expanded tail showed a white rim and on the wing there was a white blotch.

For the remainder of the month the Pied Crested Cuckoos called from trees and telegraph wires. If you were near enough you would see the red inside of the mouth. Sometimes there would be a variation of the usual call; the bird would begin with 'pee-peeip-pee-peeip' and would end with a series of 'peeyu-peeyu's. Occasionally two birds, rivals perhaps, would face one another in a tree, expand their tails and erect their crests and finally fly at one another. As many as four of these Cuckoos were seen in one tree and several times three of the birds flew one after the other. Mating was noticed on 20th June.

The calling and displays with flicking tail and wings continued

throughout July. The birds were flying about a lot. One belt of woodland on the golf links—an area full of thickets—held about six of these Cuckoos.

On 13th August I saw the first youngster, a three-quarter grown fledgling able to fly into a small thorn bush with a Common Babbler twittering alongside, and the rest of the Babbler band in a nearby *erianthus* clump. Juveniles—rather brownish with short tail and dirty white throat—and not apparently with their foster parents were seen several times in September. On 25th September I saw a fledgling in a tree with a party of Jungle Babblers: it was uttering a rather weak 'ee-pee-pip-pip' as if it were practising its Cuckoo calls.

Calls of the Pied Crested Cuckoo were less noticeable in September and were not much heard in October. I think these Cuckoos leave about the end of this month. At that time I saw them near the river in areas not frequented before. Juveniles as well as adults were noticed. It was usually a single bird, but two together was not uncommon.

KOEL

Eudynamis scolopaceus

The Koels are visitors who make a prolonged stay. They come in March and do not leave till the end of October. A few individuals linger even longer. In 1943 a bird was heard on 2nd and 3rd November and also, in much the same place, on 10th January. The next year, on 3rd December, a female was calling in a nearby garden and on 13th January, after a slight night frost, I picked up a dead male under a tamarind tree on the Akbar road. These late and widely separated occurrences may be birds who have been left behind or they may be wanderers from the northern limit of the wintering zone. (This limit was not known to me).

The Koels are more plentiful than either the Common Hawk-Cuckoos or the Pied Crested Cuckoos. They are to be met wherever there are leafy trees.

My earliest record was 10th March when the call of a single bird was heard. Within a week the 'koo-ee-yu's of the Koels were among the most noticeable of Delhi noises and started before daylight. In April the calls of the Koels were the dominating sounds,

particularly in the early mornings and evenings : besides the '*koo-ee-yu*' call, the birds have another, a laughing '*wip-wip-wip-wippy-wipp*'. When a Koel opens its mouth to call it shows a red throat: the eye too is red.

The first birds seen were males, but this may have been a coincidence. On 23rd April a male and a female were in a neem tree. In this month there was much display activity. On 29th April, a male was flying round a large banyan tree calling '*koo-ee-yu*' : in the tree, on adjacent twigs and facing one another were two females, flicking their tails from side to side, half opening their wings and making little half turns on the branch, they were calling '*teep-teep-teep*' and gradually working close together until one leant forward and made as if to peck the other on the breast after which the two drew apart. The males have a similar display, facing one another, calling and posturing, opening and closing the tail and gradually edging closer. Two males were seen several times flying after one another.

In May the Koels continued their calling. The '*Koo-ee-yu*' was perhaps the call of the male and another call '*pirrip*' may have been used by the female. In this month the Koels began to frequent the nesting haunts of the House Crows. Several times I saw a Crow in pursuit of a male Koel whilst the female Koel was slipping off in another direction. It is possible that this is a regular practice of the Koels, the male decoying the Crow from its nest and so allowing the female to slip in.

In June the Koels called throughout the month and males were seen displaying at one another. The males seemed more numerous than the females, but this may have been because the latter kept more out of sight. However I saw several males in a fig tree with only one female. The usual call was now varied by a ringing series of notes ending in a '*weet-weet-weet*'.

In July the calling goes on and I still see a male calling '*Koo-ee-yu*' and leading away a Crow. The calling continues throughout August and so does the mistrust of the Koels by the Crows, but in this month fledgling Koels appear. In the Lodi Gardens two or possibly three pairs of nesting Crows had fledgling Koels. On 10th August I saw a fledgling Crow and a fledgling Koel (male) in a tree : the young

Crow is hopping about but the Koel stays crouched and I see that it is standing on one leg, the other hanging useless. A week later the young Koel is still in the same locality and is still being fed by the foster parents, but on 23rd August I see it alone, in a *Eugenia jambolana*, looking for fruit. Although its movements are awkward it gets about, finds a fruit and eats it: it looks fit and when it flies off does so quite strongly. In another case two fledgling Koels were with their foster parents in the neem trees alongside a road: the youngsters who could fly were uttering a call which could have been described as a weak rather hoarse caw. In this month (August) the half dozen or so Koels which frequented the Aliganj Nursery were in the proportion of four or five males to one female.

In September the Koels called throughout the month, starting before it is fully light and continuing till near sunset. Fledgling Koels were both seen and heard: some were with their foster parent Crows, others were not. Once a young Koel in a neem called as a Crow flew by and the latter at once turned into the tree. Two and three fledglings from a nest seemed as common as one. The sexes can be told apart, the young females looking very greyish, barred below and spotted above and the males blackish save for a row of whitish dots across the wing-coverts. Most of the fledglings seen now look almost full grown: they still utter the 'caw' call.

In October although the Koels continued their calling it was with less vigour and persistence and birds were seen which were silent. On 2nd October a party of five adult males flew from a leafy tree on the golf links, and I wondered whether they were starting their move southward. Youngsters were heard and were seen being fed by Crows in the first half of the month, but before the end of the month nearly all adults and juveniles had gone.

In November my only records were single birds heard on the 2nd or 3rd and a male fledgling on the 4th in a mohwa tree with two Crows in attendance.

SIRKEER

Taccocua leschenaultii

I saw the Sirkeer on very few occasions, twice in the early

summer of one year and once in that of the next; a single bird on each occasion and twice in the winter of 1945, again a single bird each time. The Sirkeer is such a skulker in thick cover that it could have been missed, but I do not think it can be at all numerous and it may be only a passage migrant.

My first records, on 18th and 31st May were on the Lodi Golf Links and in the Aliganj Nursery. On the earlier date the bird was in a tree in a belt of woodland and was uttering a short '*peep*'. I noticed its pink bill, buff under parts, and the graduated tail with rounded end and large white tips to the feathers. When the bird flew off its general colouring looked brown and its flight was like that of a Crow-Pheasant. The next sight of a Sirkeer, on 31st May was in the Aliganj Nursery. I was walking along a grassy path bordered by bougainvillaea clumps. The bird was in grass ahead of me, peering about, hopping or flopping along, stopping again to peer : then it made its way by slow stages up into a bougainvillaea bush.

Next year (1945) my only record of the Sirkeer was of a bird working its way up a small babool from which, after uttering a weak call, it planed down. It looked in build a typical but small Crow-Pheasant. The fawn under parts and red tip to the bill were noticeable.

In November 1945 I came upon a Sirkeer by a narrow *wadi* with numerous leafy bushes near Suraj Kund. As the bird flies off it shows two patches of white on the sides of the tail : the red on the bill catches the eye. The bird settled in a small tree, worked up it, planed down to the ground, ran over the stones and onto the top of a boulder, planed down from this and so made off up the *wadi*.

CROW-PHEASANT

Centropus sinensis

The Crow-Pheasant is a lover of garden shrubberies, bamboo clumps, thickets and reed-beds. Good cover of some sort seemed essential to the bird. Particular haunts were occupied regularly and it may be that it does not range very widely.

The Crow-Pheasant's deep melodious bubbling '*oot-oot-oot*' is heard throughout the year. Often the bird climbs a tree to call.

Sometimes two birds will answer one another or indulge in a sort of duet. A particular tree may be regularly used as a calling perch. When it has done, the Crow-Pheasant planes down to the cover below. The bird was seen singly and in couples.

Nesting is perhaps in April and May. A fledgling was seen on 25th May. It was being bullied by a Crow and could not fly but hopped away into a garden. Twice in May a Crow-Pheasant was seen with a frog in its bill. Its colouring—deep rufous and blue-black—is very rich. The bird has a red eye.

LARGE INDIAN PARRAKEET

Psittacula eupatria

The only place I saw the Large Indian Parrakeet was Okhla. A small party of about half a dozen birds frequented the gardens there from the beginning of February until the end of April. I noticed them first on 4th February when a call different from that of the Green Parrakeet, lower in tone was heard, and I saw three Large Indian Parrakeets busy on top of a tall bombax tree which was just coming into bloom. The birds were visiting the tree regularly in March, sometimes tearing petal after petal from the flowers to get at the centre.

On 25th March a pair of these Parrakeets seemed to be nesting. One of them came out of a hole in a large bombax tree on the top of which a pair of Fishing-Eagles had their nest. On 8th April I saw one of the Parrakeets looking out of the hole and on 15th April two Mynahs who pay it a visit are driven off. On 29th April two of the Parrakeets are in the tree, but I do not see them go near the hole.

On 6th May I see no sign of the Large Indian Parrakeets in the Okhla Gardens and a Blue-Jay comes out of the nesting holes.

* Small numbers occur at various places near Delhi—for example, at Humayun's Tomb, and in the Qudsia Gardens. Single birds flying over can be identified by the louder and shriller cry.

GREEN PARRAKEET

Psittacula krameri

Bands of Green Parrakeets flying forth every morning and returning again in the evening are a prominent feature of Delhi bird-life. The morning flight starts before sunrise : band after band hurries by, flying fast and without dallying, noisy as these birds always are : the movement lasts for perhaps 20 minutes or so. The return journey just before sunset is just as noisy and fast flying, but often a band on its way will stop in some garden tree-top or hedge to snatch a last minute feed, a very hurried affair, and then dash on. I never saw the actual roost or roosts, but most of the bands coming into Delhi from the south flew past the east end of the Secretariat. I did not record any cessation of these flights during the nesting season.

Obstacles in the line of the Green Parrakeets' flight cause no check to their rapid progress. A band coming straight for a telegraph wire will rise sufficiently to just clear it without the slightest noticeable reduction of speed. As judged from a car the birds are often flying at 30 m.p.h. or more. The sizes of the bands varied considerably. I have seen as many as 80 or 100 of the birds flying together, but this would be an unusually large number. Half as many would be more typical.

Most of the feeding grounds seemed to be outside the built up area. There were shifts with the seasons. In January the green babool pods were a main attraction. The method of feeding was as follows : a Parrakeet would sidle along a branch until it was above some hanging pods. Then it would stoop and pick one off. It did this by seizing the pods at the stem end with its beak. It began eating at this end too, taking the pod at the other end in a claw and working down towards this, the final bite being given with the pod held in the beak. Only the seeds were eaten. The emptied pods were dropped.

In February and all through March the Parrakeets were raiding the corn. The usual procedure was for a flock or band to gather in nearby trees or along a telegraph wire. Individuals would then fly down to the corn, trying to hover long enough to snatch an ear

which would then be taken back to the perch. They were pretty successful in this and ears were secured quickly. Sometimes a bird would settle on a stalk and, as this bent under its weight, it would pluck the ear. The plucking was always done by seizing the ear by the stalk. Emptied ears strewn the ground beneath the perching places. *Butea* flowers and *Salvadora* berries were also taken in March.

There was more variety about the feeding in April : *Salvadora* berries, *Cordia myxa* fruits, the scarlet blossoms of *Erythrina indica*, mohwa flower buds, seeding mustard and babool pods — all these were popular and, when they were not guarded, the yellowingloquats in the gardens were obviously appreciated too.

Babool pods are available over a long period and being plentiful must form one of the staple foods of the Green Parrakeets. They were still being taken in May and June. In the latter month they fed as well on the orange clusters of *ehretia* berries, sometimes in company with monkeys, and they were taking green almonds from the gardens.

In August the jambolana fruits were popular : in December visits were paid to the heaps of jawari and bajra on the threshing floors and in January dry shisham pods served as fare.

The Green Parrakeets often come to pools in the late afternoon. They usually alight on the trees close by and then fly down to the shore of the pool. They walk the last few feet to the water and do not, I think, go right in but remain on the edge and drink from there.

The nesting season is perhaps a prolonged one. A bird was seen going into a hole in a ruin in October, and in November there was some billing between a couple of Parrakeets on a branch. It did not seem very successful. One bird sidled up to the other but its advances were met by snaps : it would draw itself up as if affronted and after a pause try again. I saw several attempts but none were welcomed.

There were more signs of nesting in January and February. The birds were often in couples and there was a deal of investigating of holes. Those in trees were more popular than sites in walls. In most cases the pairs nested individually, but in one instance a line of old tamarisk trees along a bund, there was a little colony, each

of half a dozen or more trees being occupied by a pair of the Green Parrakeets. A male bird seen in January was displaying to its mate. The latter was perched quietly on a twig with the other bird alongside and facing her. She is sitting across the twig : the male is standing along it. He draws himself up, lifts first one foot and then the other : then he leans over quickly and nibbles at the female's head. She sits quite still. The male now draws back, puffs out his chest, 'prances' again, bends forward and nibbles. The performance is repeated several times. Then the two draw apart a little. After this the male bird goes to another twig, squeals a bit and flicks his wings : the female stays where she is and nibbles at the tamarisk.

Billing was noticed in February in the tamarisk colony. A male was perched a little above the female. He leans over to her and as he does this, she raises her head and beaks are clasped for a moment. The act is repeated a number of times until the female ceases to raise her head : then each bird turns away on its perch.

Nesting seemed to last into May. One hole in a tree and, apparently occupied on 23rd February, held two nestlings on 15th May. The youngsters were able to climb up the inside of the hole and peer out through the opening. In December several Parrakeets were clinging to the masonry wall of a culvert apparently after salt.

BLOSSOM-HEADED PARRAKEET

Psittacula cyanocephala

The Blossom-headed Parrakeet seemed a wanderer into the area. I saw it in March, September and November but only once or twice in each of these months.

On 19th September a party of four (two males and two females) were in a tree on the edge of the Lodi Gardens. On 12th March I saw one of these Parrakeets accompanied by a smaller bird which may have been a youngster. All the other occurrences were of single birds.

This Parrakeet has a plum coloured head and a very distinctive call — a shrill 'tweet-tweet'. I saw it feeding on a babool pod.

* In recent years small parties have been seen frequently, and it must be considered a resident bird in small numbers.

INDIAN BARN OWL

Tyto alba

My only record was on 29th March when I met a man in Albuquerque road carrying a live Barn Owl which had apparently been obtained from one of the tombs in the Lodi Gardens.

SHORT-EARED OWL

Asio flammeus

I only saw this Owl on three occasions. The first was on 5th March. I was crossing some corn land in the riverain belt and the bird got up ahead of me showing fawn patches towards the ends of the wings and on the tail. When it settled — it soon did — the absence of 'ear' tufts was noticed.

The other two occasions were in October — on the 8th and 22nd — and were also in the riverain belt. The first bird was in a small clearing in the reed-beds near Okhla. When flushed the Owl flew round the clearing and then settled again. The second bird got up from an area of dry sand and tufts of grass near the river : it too flew only a short distance before settling.

The occurrences suggest that the Short-eared Owl is a passage migrant.

* Other observations confirm this.

BROWN FISH-OWL

Ketupa zeylonensis

For some time one or more of these birds could be found regularly near the river at Okhla, but the trees they haunted have disappeared.

ROCK EAGLE-OWL

Bubo bengalensis

Rock Eagle-Owls were in permanent residence in a ruined tower south of Humayun's Tomb. I saw four of them there in February,

but on other occasions only one or two. Sometimes one of the birds would be in a nearby leafy neem tree but when flushed from there it would make for the tower.

In flight the bird shows a rich brown or rufous colouring on the wings. Its long 'ear' tufts are noticeable when the owl is perched. The call is a deep 'woo-woo'.

Rock Eagle-Owls were also seen singly or in couples in trees along the Okhla canal.

DUSKY EAGLE-OWL

Bubo coromandus

The Dusky Eagle-Owl is a woodland bird. I did not find it very numerous. One or possibly two pairs frequented the Lodi Golf Links choosing the parts where the trees were largest and the woodland comparatively dense.

The call of this Owl — a deep 'cuck-cuck-cuck-currhh' — is quite distinct from that of *B. bengalensis*. One pair whose quarters were close to a large Mynah's roost usually began calling just as the Mynahs were flying in for the night. I have also heard this Owl call from a leafy tree in the early morning about sunrise.

A pair was said to have nested during the winter in an old Buzzard's nest on the golf links. They were not there when I visited it in February.

This Owl is often mobbed by House Crows. Possibly other birds find it first in some tree and then by their chattering attract the Crows. On one occasion a Dusky Eagle-Owl in a tree was being mobbed by a party of Large Grey Babblers together with a Wood-Shrike and a Fantail-Flycatcher. The Owl flew off, and some Crows which were coming into their roosting quarters turned back and joined in the mobbing.

COLLARED SCOPS-OWL

Otus bakkamæna

I think the Collared Scops-Owl was both scarce and local, but its apparent preference for thick cover and its nocturnal habits

would tend to make it seem more scarce than it is.

I first came upon one of these Owls on the evening of 6th April in the thicket-covered tree on the Lodi Golf Links. The chattering of Bulbuls led me to look into the thicket and I saw the bird fast asleep. It did not open its eyes. There were two of the Owls next evening and both were very sleepy. Now and again an eye would half open but only for a moment. These Owls were to be found in this haunt well tucked away in the midst of the thorny creeper all through April, May and June. Sometimes only one bird was noticed, but the thicket was so dense that the other might have been missed. And only once during this period did I see the Collared Scops-Owl anywhere else. The exception was on 24th May about sunset when four Sunbirds, a Tailor-bird and a White-cheeked Bulbul were chattering at one in a babool not very far from the thicket-covered tree. I imagined it was one of the birds from the usual haunt and this seemed empty on 26th May. But it was occupied again in June. And I think it was used until the end of November. I did not see the birds there in December nor from January to March. My visits now were infrequent but, in the following June and again in September, the Owls were in the same thicket-covered tree.

My only other record of the Collared Scops-Owl was on 21st April in the Aliganj Nursery where I found a party of Bulbuls chattering at one in a bamboo clump in the evening.

* INDIAN SCOPS-OWL

Otus sunia

Two old records in February and March.

SPOTTED OWLET

Athene brama

The Spotted Owlets were generally distributed over the area wherever there were ruins or holes in trees. Delhi's tree-bordered roads were popular haunts.

The birds are on the move at sunset and their shrill 'chirrier' calls

are often heard then. But they are even noisier in the early morning before daylight.

As a rule they are met singly or in couples but there was one gathering in the Lodi Gardens which kept together for over a fortnight. I saw this party — it consisted of nine birds — first on 26th July. They were all in a tree close to an old masonry bridge — five close together on the branch, a huddle of three on another and the last bird by itself. They were there regularly morning and evening until 5th August when I counted ten. But this was the last full gathering. Until 17th August one, two, three Owlets might be seen in the tree but after this they had all gone elsewhere.

In December I saw Spotted Owlets one morning sunning themselves at the entrance to a hole and a fourth in the tree opposite.

The Spotted Owlet does not seem subject to mobbing as much as other Owls. The only case I saw was on an August evening when two White-cheeked Bulbuls had discovered an Owlet in a large tree and were chattering at it.

KING VULTURE

Sarcogyps calvus

The King Vulture did not appear a very numerous species. It was usually seen in couples or singly, but parties of three were not uncommon and more than this were likely to be found at the refuse dump on the Alipur road.

The Jumna river was a sure haunt of several King Vultures : individuals would be seen soaring over the river or resting on a sand-bank. Dead turtles attract them. Sometimes a couple of the birds would be feeding together, at others they would be taking turns with White-backed Vultures and possibly Crows. Once I came upon three King Vultures and a Neophron waiting hopefully by a sheep with a new-born kid.

Another haunt was the Lodi Golf Links. Here one or two roosted regularly in a tree by the fourth green, and in two successive years a pair—possibly the same roosting birds—nested not far from a fairway. The nest was on top of a tall leafy tree by the wall of a ruined *serai* surrounded by woodland. A Vulture with a stick in its beak flew to

the nest on 2nd April and shortly afterwards the pair were on the nest. They were about the tree or its vicinity throughout May and June. The next year on 29th April, a Vulture was on the same nest. It was standing with its head down in the nest and when it raised its head the pink wattles were noticeable. No sign of a youngster could be made out from below, but there probably was one because, on 6th May, one of the adults was on the nest with its wings half open keeping the sun off a nestling. The latter looked whitish save for its bluish beak : it reached up and caught one of the old bird's red wattles, apparently trying to pull its head down. The old bird did lower its head into the nest and presumably fed the chick. The youngster was still in the nest on 5th June, but the foliage had grown up too much for a good view of it : it seemed very black except for the face which looked bare and pink. The following November a King Vulture was in the same nesting tree.

When soaring overhead the white breast patch is conspicuous : there is also white along the rear edge of the under wing and a bold white patch on each flank. A King Vulture coming down to perch on a tree will circle, drop its legs and plane down.

INDIAN GRIFFON VULTURE

Gyps fulvus

I saw this bird once—on 6th February—a single bird on a tall leafless tree, utterly dwarfing a couple of Neophrons perched below.

* A regular winter visitor to Delhi by no means uncommon.

WHITE-BACKED VULTURE

Pseudogyps bengalensis

The White-backed Vulture is a numerous species. It occurs, in the main, in the neighbourhood of habitations. These Vultures congregate to roost usually in trees but also in the domes of tombs. One roost in the Aliganj Nursery contained more than 100 birds. Many of the roosts are close to villages.

The White-backed Vulture is not an early riser. I have seen them in January in their roosting trees with their heads still tucked under

their wings as late as 8-30 a.m. When they do move they range forth in small parties and bands, also singly and in couples, but later in the day when the birds are soaring and circling overhead there is a tendency to build up into flocks again.

Sometimes the flocks are mixed : I have seen White-backed Vultures wheeling overhead in company with Spoonbills and White-necked Storks. On another occasion they were with Neophrons, whilst at the refuse dump north of Delhi they would be with Kites, King Vultures, Steppe-Eagles and others.

As roosting time approaches the Vultures fly back in straggling processions. Seen in the air the forepart of the under wing is white : the white is in the form of a band broadest near the body and tapering a little towards the wing edge.

Nesting begins in December, possibly earlier. Twice in October a White-backed Vulture was noticed taking a stick to its nest and one bird was seen on its nest in a peepul tree. Nesting is in full swing in December. The sites vary. Sometimes a large isolated tree in the fields will hold a single nest, at others there will be several in the same tree possibly in a village and often scattered colonies were found ; the birds nesting in adjacent trees along a roadside. All that one sees of the sitting bird is its head and bare black looking neck.

The first nestling was seen on 28th January : an adult was perched on the side of the nest and I could just see the youngster alongside, about the size of a chicken seemingly, with white head and neck and large dark beak. The same day I saw another nestling also with an old bird beside it. On 11th February the first youngster had the beginnings of black or dark feathers on its wings. Many other nestlings were noticed now including one which looked as big as its parents and had its wings feathered, the only noticeable difference being its neck which was white instead of dark grey. On 18th February the first youngster was preening itself and looked almost fully fledged : its colour was brown save the neck and head which were white : the ruff at the base of the neck was brown. On 25th February this was on the nest stretching its wings.

Youngsters are still in the nests on 4th March, but on 11th March I saw one in a tree : only the back of its neck is woolly and white ;

the throat and face are dark ; the under parts are dark brown with a light streak down the centres of the feathers.

A week later (18th March) most of the youngsters left the nests, but I saw an occasional nestling up to 8th April.

NEOPHRON

Neophron percnopterus

Neophrons occur generally over the area. Small parties and bands up to a dozen perhaps—roost together in trees. They leave their roosting places just before sunrise ; some go earlier whilst it is still dark. They come back as the sun is setting.

Neophrons are to be met about the river, often on the sand-banks, in the fields and waste lands and about rubbish dumps. I have seen them feeding on a dead turtle, waiting with King Vultures by a newly born kid with its mother, and bickering with Kites and a Tawny Eagle over a dead snake. Individuals and small parties have perching places which they use regularly.

In January the Neophrons were in pairs : couples were seen playing in the air and mating was noticed on a ruined tower. In March the birds were sitting. The same site seems to be occupied year after year. Nests were seen on ledges in ruins, on the top of a ruined tower, at the end of a nearly horizontal branch of a neem tree on the shore of a lake, high up in a tree on a canal bank and in a palm. The orange-yellow face and back of the sitting bird catch the eye. The incubation is shared : the mate of one sitting bird flew to the nest bringing something which it dropped beside the bird on the nest. The latter seemed to take no notice but a moment later flew off and the second bird, after some shuffling, settled down in the same position as the other had occupied.

The first youngster was seen on 28th May : it looked nearly fully fledged. Other nestlings much younger were seen in June. On 11th June an adult Neophron was standing on its nest with shoulders hunched and pushed forward. I could just make out the bluish head of a nestling. On 18th June the youngster looked almost full size and was a rather mottled grey and black. As I came up it sank down onto the nest until only the blue-grey head and black eye were visible. On

25th June the adult flies off as I come up and I only catch a glimpse of the young bird before it sinks down and flattens out on the nest. On 2nd July the youngster was still in the nest and again crouched flat directly it saw me.

Fledglings were seen out of the nest before the end of June. On 25th June I came upon two adults with a very blackish youngster. On 2nd July I saw another, apparently unable to fly, on the ground below its nest.

TAWNY EAGLE

Aquila rapax

Eagles taken to belong to this species, but not identified with certainty were found in small numbers in the open country and were also seen at the refuse dump. On one occasion one of these Eagles was with three Kites and a Neophron bickering over a dead snake. A Kite picked the snake up but as it flies away is pursued by the other Kite and drops its meal. Down goes the second Kite after it but the Neophron now comes up and the Kite withdraws. Next the Tawny Eagle flies up and, after a rather hesitant approach, flies off with the snake in its claws and alights in a tree. Its possession is not disputed.

GOLDEN EAGLE

Aquila chrysaetus

A single bird, a female, near Qadipur on 31st December was my only record of the Golden Eagle. The bird was on the ground with two King Vultures. It was considerably larger than the latter and was almost uniformly dark brown with 'trouserred' legs and a pale grey beak.

IMPERIAL EAGLE

Aquila heliaca

My identifications of this Eagle were not sure. On 27th August two large Eagles seen in the riverain belt were thought to belong to this species : further on was another, then another and another.

They may have been on migration.

* Imperial Eagles probably occur near Delhi nearly every winter. In 1952-53, for instance, several were satisfactorily identified. The details given by General Hutson for his identification of the Golden Eagle do not preclude the possibility that it was an Imperial Eagle, which is much more likely.

STEPPE-EAGLE

Aquila nipalensis

These Eagles were seen between November and April in the open country and by the refuse dump north of Delhi. Presumably they are winter visitors. They were met singly, in couples and in threes.

* In winter this appears to be the commonest large Eagle near Delhi. It can always or nearly always be identified when in flight by the bar or bars of white along the wings. Its mantle is more of an umber-brown than the typical Tawny Eagle, but the latter species is very variable.

LARGER SPOTTED EAGLE

Aquila maculata

One or two Eagles seen in August and September may have belonged to this species but were not identified with certainty.

* This Eagle which appears to be rare near Delhi, can sometimes be identified by the narrow V-shaped white patch on the rump—not to be confused with the whitish patch or whitish flaking on the lower back shown by several other Eagles. It is a very dark bird slightly smaller than the Tawny Eagle.

* SMALL SPOTTED EAGLE

Aquila pomarina

One or two doubtful records.

* BLACK EAGLE

Ictinaetus malayensis

One or two doubtful records.

BONELLI'S EAGLE

Hieraetus fasciatus

Only one pair of Bonelli's Eagles was known in the area. Their haunt was the Tughlakabad and Rajput Dam district, but once I saw a single bird alight on the edge of a sand-bank in the river near Okhla. These Eagles were usually seen hunting as a couple.

BOOTED EAGLE

Hieraetus pennatus

A number of Eagles thought to belong to this species were seen on 27th October at a rubbish dump by the powder magazine north of Delhi. This was the only record.

* This is much smaller than the other typical Eagles and might be mistaken for a Buzzard. Much of the body is often white. In this plumage it is not difficult to identify. It has been seen near Delhi on a number of occasions in recent years..

* CRESTED SERPENT-EAGLE

Haematornis cheela

Pairs occasionally seen in the country some distance from Delhi. It is a smallish Eagle identified by the white band across wings and tail. The head usually projects further forward than in most Eagles when the bird is soaring.

* CRESTED HAWK-EAGLE

Spizaetus cirrhatus

One seen in a tree in New Delhi.

SHORT-TOED EAGLE

Circaetus ferox

Seen at various times of the year, single birds or pairs. The white under parts contrasting with the brown throat are usually diagnostic. Bonelli's Eagle sometimes has a similar colour scheme, but it is a much slenderer bird, with longer wings and tail.

WHITE-EYED BUZZARD

Butastur teesa

This Buzzard is a bird of the open country although it does come into gardens and parkland as well. It is not a numerous species and was usually met singly. I saw most in the riverain belt, but never more than four in the course of a day's walk. The Aliganj Nursery was an example of a garden haunt: it was used regularly by one bird and I suspected a pair nested there or close by.

The White-eyed Buzzard is commonly found perched in a tree and will use the same tree over a considerable period. I have also come across it on the pinnacle of a ruin, on the top of a hut in a village and low down on a clod of earth in a field. From its perch the Buzzard glides down feet first to the ground, and if it secures anything will fly back with it to its perch. The bird usually perches in a very upstanding position. It is not at all shy and will allow one to walk up quite close.

This Buzzard is much chivvied by other birds. Tree-Pies chatter at it and so will a party of Large Grey Babblers uttering their 'dee-dee' call. King-Crows pursue it as it flies low over the fields, and House Crows both chase it in flight and mob it when perched. But I have seen the White-eyed Buzzard alight in a tree containing some ten King-Crows without causing any stir at all; nor did one cause any alarm on alighting on a telegraph pole amongst a party of Blue-cheeked Bee-Eaters.

The Buzzard's characteristic call 'whee-ye' or 'tip - whee ye' was heard between May and October. More than one bird was in the vicinity as a rule, and the calling may have been to the mate or to

youngsters. When uttering the call the bird puts its head down in a rather crouching position. I also heard the 'whee - ye' call used by a White-eyed Buzzard which was making stoops at another, possibly *Buteo rufinus*, which had settled in a nearby palm.

A party of four White-eyed Buzzards and another of five or six, both seen in September, the second soaring above a cattle camp, may each have been family groups.

Distinguishing features of this Buzzard are the broad white stripe over the eye which itself looks white, the white patch at the back of the neck, the medial dark streak down the throat with another dark streak on either side, the light wing-coverts and the rufous tail. Some birds were much lighter in their general colouring and one bird with an almost white head was seen.

CRESTED HONEY-BUZZARD

Pernis ptilorhynchus

This is a resident but not numerous species haunting woods and tree-clad country and also met occasionally about the gardens and tree-bordered roads of New Delhi. The Crested Honey-Buzzard is often chivvied by Crows. I have seen the latter, when on their way to roost, drop down to clamour at a Honey-Buzzard in a tree. It is chattered at by Tree-Pies and I have seen it chased by King-Crows and also by Shikras. These two last instances may have been occasioned by the Buzzard trespassing on the other bird's breeding territories.

One regular haunt of the Crested Honey-Buzzard was the Lodi Golf Links. In March a pair was nesting there. I saw the nest first on the 12th but not the owner. On the morning at 9.15 of the 19th one of the birds was at work. It was getting sticks from a tree a short distance away. The Buzzard would break off a twig with its beak, transfer the twig to its left foot, put the foot back on the branch and then launch out from the tree in a downward glide. It did not fly direct to its nest but went first to another tree. After adding the twig to the nest it would sidle along the branch, glide off downwards and rise up into another nearby tree. Building in this fashion was in

progress on the 26th at the same time of day. The nest was considerably larger than it had been on the previous visit, and looked very untidy. Several Crows alighted in the nesting tree and tried to annoy the Buzzard, but the latter seemed unconcerned and flew off for another twig. It was clumsy at getting them. Sometimes it would try one or two, first in one tree and then in another, before finding one which would snap off. As on the previous occasion the twig was transferred from beak to claw, the position resumed with both feet on the branch and then the Buzzard took off. Again it did not fly direct to the nest although this was not 20 yards away. Arrived at the nest some minutes were spent adjusting the stick after which came the walk along the branch and then the downward glide and rise up into a tree some 15 yards off. Another twig is obtained and back the bird comes via an intermediate tree to the nest. Building was still in progress on 2nd April but this was the finish of this particular nest. For some reason, perhaps because it was shot at, the Buzzard left.

A month later on 7th May a Crested Honey-Buzzard, possibly the same bird as previously, had built or acquired another nest not far from the abandoned one. This new nest was a rather large untidy structure, some 45 feet above the ground on the main branch of a leafy tree. On 7th May the bird appeared to be sitting. I saw a broad dark tail with white tip protruding over the edge. Every day the bird is there always in the same position. On the 18th May the wind blew aside the foliage for a moment and I caught a glimpse of her head. On 21st May the Buzzard was more on the edge of the nest. She kept this position until the 20th June. As a rule little more than the tail could be seen: occasionally the head and neck were visible. Sometimes the eye looked black, at others yellow. This nest, too, came to grief, for on 25th June the whole structure had gone: there was no nest in the tree nor any sign of it on the ground.

The call of the Crested Honey-Buzzard is a drawn out '*whee - ye*' which is uttered time after time. Two birds in the tops of adjacent trees on the golf links were calling in this fashion on 1st October. The call is rather shriller and more powerful than that of the White-eyed Buzzard. It is uttered with the mouth wide open, and the

reddish inside visible. One of the two birds calling on 1st October was generally grey-brown in colour, but with the head noticeably lighter and more uniformly grey. The second bird looked browner than the other. Both were very tame and allowed me to approach right under their tree. This was the only occasion when I saw two birds together.

The bill is weak looking and is noticeably small for the size of the head. Looking at the bird from behind, the crest is scarcely evident but it becomes so as the Buzzard turns its head. As it bends its head to preen the bases, the feathers on the nape show a lot of white. The colour of the iris seemed to vary: at times it looked blackish; then it seemed to have a reddish tinge or to look yellow. Whether it was different with different birds or, whether the change was due to alterations in the light, I was not sure.

The end of the tail is black: there is a hint of a light band above the black but this is hidden by the top feathers which are all dark. The under side of the tail shows a broad grey-white band above the black end. In flight the tail shows straight and square ended and looks rather long.

PALLAS' FISHING-EAGLE

Haliaeetus leucoryphus

I knew of two pairs on the River Jumna, one based on Okhla and the other north of Delhi by the Bawana Escape. I also saw this Eagle on the Hindan river. The bird is seldom far from the river. It is to be seen sailing over the water, perched on some low mound on a sand-bank or in a tree on the bank. It has a characteristic loud cry uttered both on the wing and from a perch.

Nesting is during the winter commencing perhaps in November. The site is a large tree: at Okhla it was a bombax tree in the gardens close to the river, and at the Bawana Escape it was a large *eugenia* standing by itself in the cultivation. The nest, which is probably used in successive years, is placed at the top and is a bulky structure.

The white head and neck of the Pallas' Fishing-Eagle, and the white tail with black tip are recognition marks: the rest of its plumage is dark.

*** LARGE GREY-HEADED FISHING-EAGLE***Ichthyophaga ichthyaetus*

Occasionally seen near the river. The under side, nearly black in Pallas' Fishing-Eagle, is largely white in this species. The amount of white in the tail is less.

*** OSPREY***Pandion haliaetus*

Not infrequently seen by the river or over large jheels.

BRAHMINY KITE*Haliastur indus*

Brahminy Kites pass through the area on their way south. They travel in somewhat leisurely fashion, some birds lingering quite a while in a particular haunt, the length of stay being determined probably by the amount of water about. This Kite has a noticeable liking for the vicinity of water, and its arrival in Delhi more or less coincides with the season of floods: there were large tracts of flooded land and fields by the river and there were also many pools elsewhere. Wherever there was water in wooded as well as in open country, Brahminy Kites were to be met, although more on the whole were to be found in the open country of the riverain belt than elsewhere. I have seen more than 20 in the course of a walk over the riverain belt as compared with six on the Lodi Golf Links where, in the south-west corner, a belt of woodland was low lying and much flooded and was a haunt frequented by the Kites on two successive migrations.

The Brahminy Kites begin passing through at the end of July : my earliest record was 28th July. The movement was in full force throughout August and September after which it slackened and came virtually to a close in October, although one or two individuals were noticed later; a juvenile on 25th November, an adult bird on

28th November and another on 25th December. There were no records at all of the return journey.

The Brahminy Kite is to be met perched in trees, on the ground and beating to and fro over water or rank herbage. Sometimes it makes sallies from a tree, dropping almost to the surface of the water where it checks and tries to clutch some floating morsel in its claws. The birds were normally silent but I did come across one, on 3rd September, perched on a post in a flooded tract and uttering a 'mewing' call.

In a bright light the Brahminy Kite's chestnut and white colouring looks really brilliant: the main part of the under wing is a light rufous; the primaries are blackish.

* In some years birds are observed in the Delhi district in spring.

COMMON PARIAH KITE

Milvus migrans govinda

The Common Pariah Kite occurs plentifully and generally over the area. Except in the breeding season the birds roost communally. Before sunrise, often before it is fully light and whilst the moon and the stars are still shining, the Kites are flying out from Delhi with the House Crows to their feeding grounds. The Kites flying silently or nearly so; occasionally a whistle is heard. They travel a great deal by sailing—a few wing flaps, then a long sail with wings outstretched. As a rule no stops are made in the gardens on their way. The return journey is made as the sun is setting.

Nesting was observed from January to May. Almost any large tree may be chosen, by a roadside, in a garden or parkland or among the fields. My first record was on 14th January when a Kite was seen taking a twig to a newly begun nest in a neem tree by the roadside. This nest did not make much progress and a week later building was still going on. Another nest newly built was seen on 20th January, and on 1st February its owner seemed to be sitting. On 3rd March when the sitting bird flew off, I saw the white haired head of a nestling above the edge; it sank slowly out of sight. On 6th March the nestling sits well up in the nest; it has quite a lot of

feathers but the head is still downy. Next day, I see there are two youngsters differently aged: the larger is feathered and its colouring mottled; the other is still downy and when it opens its wings they show very few feathers. On 8th March when the adult leaves the nest, both the young birds which had been standing well up cower down out of sight. On 11th March the adult leaves the nest and flies to a nearby tree, both youngsters cower down promptly. On 16th March I note that there is not much difference now in size: the head of one (I could not see that of the other) is still white and hairy. On 22nd March there is no adult on the nest but both are in trees nearby: as I approached the tree one youngster cowers down at once and the other which looks well feathered although still with down on its head follows suit. On 31st March an adult is on the nest with the two youngsters which look fully plumaged. On the evening of 1st April one youngster is on the nest and the other is on a nearby branch: one adult is in the tree too. On 4th April three Kites, all in dark mottled plumage and looking like young birds, are by the nest. On 8th April there is one Kite on the nest and a second on the branches nearby; the latter flies off. On 10th April it seems that the nest has been left.

In the following year, on 27th January, a Kite was at a new nest within 40 yards of the previous nest which was still in place.

Nesting continued into May: on 15th May an adult was seen with a fledgling on a nest in a neem tree. There were no records in June, except that a bird was seen flying to a tree with a twig. The twig is carried in the claws and is transferred to the bill before alighting.

The Pariah Kite's characteristic whistle may be heard throughout the year but is most noticed in the nesting season. The birds whistle as they mate on a tree-top.

* BLACK-EARED KITE

Milvus migrans lineatus

Birds with the white patch in the wing characteristic of this race can be seen soaring with other Kites and Vultures over Delhi in winter but they are infrequent.

BLACK-WINGED KITE

Elanus caeruleus

This bird is resident. It frequents the open country, dry areas as well as wet, and is not numerous. Except in the breeding season it was nearly always met singly. On one occasion in December I saw three hovering over the reed-beds at Gadipur : this may have been a family party.

Often one finds the Black-winged Kite perched on the top of a babool or other tree or on a telegraph wire, and it seemed to frequent a particular spot for a considerable period. The bird circles and sails over an area with periods of hovering when it looks like a large and rather loosely built Kestrel. It does not hover so gracefully as the latter; its wings look shorter and broader, the beats are slower and the tail is held rather bent.

On 6th February, a Black-winged Kite slipped from its perch in a tree to the ground where it seized a rat or a mouse. Holding the creature in its claws it tore off pieces and gulped them down. Then it disembowelled its victim, peeling out the guts. My approach at this stage alarmed it, and it carried its prey into a nearby tree and finished the meal there. Some of the pieces gulped down were so large that quite an effort was needed to swallow them. The tail went down entire.

Possibly this Kite does not prey upon birds. Certainly it seems to cause no alarm. I have seen it alight on a telegraph wire amongst a band of Blue-cheeked Bee-Eaters without creating the slightest stir. It is not shy.

Pairing and mating seemed to start in September. Mating was noticed on a tree-top. On 30th September a Kite flew with a twig into a babool : the nest had only just been begun. Work was still in progress on 5th October : the nest was still a flimsy structure which could be seen through. It was on the outer branches about 25 feet from the ground. Twigs were carried in the beak. On 13th October there were three eggs : the nest was now a rather shallow and not very substantial dish made of twigs with some dry grasses as a lining. The bird has flown off quietly and is perched with her mate on a telegraph wire nearby. She returned to the nest directly I left.

In the same tree — a very thorny one — is a Dove's nest with two eggs.

The black patch on the shoulder of the wing is usually very noticeable.

MARSH HARRIER

Circus aeruginosus

Marsh Harriers are winter visitors in small numbers. My earliest record was 3rd September and my latest 16th April. The birds were usually seen beating over reed-beds in the neighbourhood of rivers and jheels. They were also met flying over the corn in the riverain belt and sometimes a little further inland over coarse herbage. When not seen on the wing, the Marsh Harrier was found on the ground : I never saw it in a tree.

Females were seen more often than males. The bird was generally met singly, but couples were not common.

The Marsh Harrier is evidently viewed with alarm by other birds. I have seen it scatter Doves from a tree as it flew by and also put up Snipe as it hunted over a jheel. On one occasion a female flew off with what I thought was a Paddy-bird dangling from its feet.

The male has striking silver-grey wings with black tips and silver-grey tail ; the female is dark brown save for a yellowish crown and shoulders. When it gets up its grey-brown rump is noticeable and in flight the under side of the wing shows a large whitish patch.

Twice I saw a Marsh Harrier drop its prey when flown at by another predator. The Paddy-bird mentioned above was dropped when an Eagle descended from above and, on another occasion, a Kite flew at one and caused it to give up its catch.

HEN HARRIER

Circus cyaneus

The Hen Harrier appeared generally distributed over the open country from September to April. It was not a numerous species and was always seen singly soaring overhead, or perched in

a tree or on a millet stook or some other low eminence. Possibly it is a sluggish bird, but it did not seem shy.

* MONTAGU'S HARRIER

Circus pygargus

Single birds were seen in the spring. They probably also pass through on migration in autumn.

PALE HARRIER

Circus macrourus

Pale Harriers were met in much the same numbers and over the same periods as *C. æruginosus*, but they were not particularly birds of the reed-beds or vicinity of water. Their range was wider, and they were seen almost anywhere in the open country, beating low over fields of corn and millet, over grass land and plough and also over reed-beds. It was nearly always found singly, although once or twice a second bird was not far off.

The Pale Harrier was first noticed in mid-September : it had apparently gone north by mid-April.

LONG-LEGGED BUZZARD

Buteo rufinus

This species appeared to occur pretty generally over the open country from September to April. It was not numerous, and was always seen singly, either soaring overhead or perched in a tree or low down on a millet stook or some other low eminence. Either it was not shy or was sluggish.

* UPLAND BUZZARD

Buteo hemilasius

One identified near Tughlakabad on 21st January 1951.

SHIKRA

Astur badius

The Shikra is a bird of the woodlands and of the larger gardens. The south-west corner of the Lodi Golf Links and the Aliganj Nursery were two places where the birds were to be found throughout the year, and in both of them a pair of Shikras nested. Except in the nesting season it seemed a solitary bird.

Nesting began in April and continued into June. The first nest was found on 9th April. A pair of Shikras had obtained possession of a nest just built by Honey-Buzzards and abandoned by them about 2nd April. On 9th April a Shikra was on the nest. The bird was not easily seen from below, and it was a slight movement seen through the twigs of the nest which disclosed its presence. When I approached and stood below the tree the bird slipped away quietly. It behaved in the same way on 16th April, but on 23rd April it was sitting more closely and I had to strike the tree below ; it left the nest and then only flew to a nearby tree.

All through May the Shikra sat. At first glance one would see nothing. Then, through the twigs, the eyes, beak and top of the head of the sitting bird could be made out. As a rule the bird was motionless. If she did move her head the yellow eye could be seen. On 18th May she had changed her position for the first time. She was still sitting on 26th May.

On 2nd June when I visited the nest there was no sitting bird, and through the sides of the nest I could just make out a rather downy youngster. One of the adults was on a nearby tree. On the 5th and 11th June an adult was either on, or by the nest, but on 13th June in the evening there was one chick standing on the edge of the nest and I could see the head of a second. The chick had a white head with black eye, light bluish beak with black tip, dark wings, white under parts with dark streaks on the breast and a few dark flecks on the flanks. Half an hour later the adults were flying round calling, and the second chick had shifted a bit in the nest but had not climbed up to the edge beside the other. On 16th June both youngsters are on the branches by the nest. They look much larger and their heads are becoming brown although the forehead is still white :

the under parts are white boldly streaked with dark, but there is no streaking down the centre line which is pure white. The youngsters now take notice of my movements below the tree and peer down. A little later — it is in the evening — one of the parents arrives with food and feeds the two nestlings. She seems to be tearing off pieces of the meat and putting them into the youngsters' mouths. Afterwards she flies to a tree nearby (her breast is dark not barred) and the chicks get on to the edge of the nest again. On 18th June, towards evening, an adult flies by me carrying a mouse and calling '*peewit-pee-wit*'. It is not heading directly towards the nest, but I find it there feeding the youngsters when I come up. One of the latter is gulping down the tail. As soon as the meal is over both hop up onto the side of the nest. The adult waits a little in the next tree and then flies off uttering a couple of calls. The appearance of the youngsters has not altered noticeably since my previous visit.

On 20th June both youngsters were out on the branches three to four feet from the nest : they are growing rapidly. One of the adults is in a tree close by and beneath another are the feathers of a Dove. On 25th June the two young birds are in the tree next their nesting tree : they look real little Shikras now and, when I approach too close for their liking, they fly on to the next tree. Their tails are barred.

Another nest was found on 23rd April about 26 feet up in a eucalyptus tree in the Aliganj Nursery : an adult was on the nest on 27th April and on 30th April was standing on it. On 31st May I could just make out the tops of the heads of downy nestlings : one adult was in the tree and the other in a large babool close by. On 4th June when I visited the place in the early morning one of the adults was hunting : two Tree-Pies chased it, but a little later it was on the top of a headless palm with some bird it had killed. A day or two later one of the pair stooped at a Partridge chick put up by a dog but, two King-Crows from their nest above in a pink *cassia*, dived at it and the chick escaped untouched.

A third nest found on 10th May was in a neem tree by a roadside. The nest may once have belonged to a Crow. The Shikra was sitting close by. When I threw a stone and drove her off, she only went to the next tree and, when a Crow came by, at once drove it off.

On 10th November a Crow was persistently chasing a Shikra

round and round a small area and, although the Shikra was much the faster flier, it could not shake off its pursuer. The Crow's object seemed to be to get rid of the Shikra and the latter did at last go. There was no cawing.

* GOSHAWK

Astur gentilis

One doubtful record.

SPARROW-HAWK

Accipiter nisus

The Sparrow-Hawk was apparently a winter visitor and not at all numerous. I saw it on only two or three occasions — a single bird each time and either flying into a tree or from some low perch — between November and January.

LUGGER FALCON

Falco jugger

The Lugger Falcon was mainly a bird of the open country but included parkland in its hunting territory. There was one which paid frequent visits to the Lodi Gardens, scattering the Blue Rock-Pigeons from the tomb dome as it flew up and dispersing them again when it left. Several times this Falcon brought its kill to the dome to eat it. In the open country the Lugger Falcon would be met flying low and very fast, just skimming the corn stooks perhaps. I have seen it scatter a number of Ring-Doves, but make no attempt to take one.

On one occasion I came upon a Lugger Falcon by the river : it walked deliberately into the water, drank and then bathed after which it flew straight out of the water to the top of a mound where it preened.

Lugger Falcons were noticed in pairs in April but they had begun

nesting much earlier. On 6th May two Lugger Falcons were seen on the top of a tall tree in the fields near Okhla. Lower down at the pollarded end of a stout branch about 30 feet from the ground was a large nest owned originally perhaps by a Kite or a Vulture, but now occupied by the Luggers and holding three nearly fledged youngsters. These latter have grey-brown upper parts and dark under parts : the crown, ear-coverts and throat are light ; there is a dark line through the eye and the beginnings of 'moustache' streaks. One of the adults flies away on my approach, the other keeps stationed overhead for a while and once stoops swiftly towards me. The nestlings call with rather weak cries, and now and again, they open and stretch their wings. Their tails are short. The adults have pointed wings and seem very uniform in the colour of their upper plumage.

When I visit the nest on 9th May one of the adults has just come up with food — a bird I think — and is pulling off pieces and giving them to the youngsters who stand around. Presently the old bird flies off : one of the nestlings goes on tearing up the kill and eating it, the others climb on to the edge of the nest and stretch their wings. In the same tree all this time are two Red Turtle-Doves, the male bowing and cooing to its mate, a pair of Ring-Doves who are building in the next tree and a Blue-Jay. Both adult Luggers now come back and alight on the top of the nesting tree : the young birds — I now see there are four — climb about the nest and on to the adjacent branches ; one of them now and again having a go at what remains of the food. The youngsters have the breast heavily streaked dark except towards the vent where the colour is whitish : their ear-coverts, a stripe over the eye and the forehead are light fawn and the extreme tip of the tail is also light. On 13th May the youngsters are out on the branches by the nest.

On 3rd June I come upon the Lugger family, or part of it, for I only notice one adult and two youngsters. The former is hunting whilst the fledglings fly round or wait in trees along the canal. There is a good bit of calling. Later I come upon one youngster feeding, presumably upon food brought by the old bird. The youngsters are now very dark on their under parts.

PEREGRINE FALCON

Falco peregrinus

Individuals were seen occasionally in January and April : the Peregrine seemed scarce.

* SAKER FALCON

Falco cherrug

Recorded in November and January.

RED-HEADED MERLIN (TURUMTEE)

Falco chicquera

The Turumtee was not at all plentiful. Single birds were seen irregularly on a few occasions in the open country of the riverain belt. All my records were between September and March. Sometimes the bird was perched on a telegraph wire or on a tree-top, at others it was flying low and very fast just above the ground.

The Turumtee is a very small grey Hawk with a rufous crown.

KESTREL

Falco tinnunculus

Kestrels are winter visitors. They were not numerous. All my records were of single birds, usually hovering and in the open country. On 8th April I saw a Kestrel drop to the ground, secure a lizard and fly off with it in its claws to a nearby clod. There, beginning at the head, the Kestrel tears off pieces of the lizard and eats them.

COMMON GREEN PIGEON

Crocopus phænicopterus

Green Pigeons were seen between April and August — a single

pair nesting on the Lodi Golf Links, and a party of ten or so frequenting the Aliganj Nursery and nesting there. The Aliganj Nursery was frequented in two successive years : perhaps the fig trees there were an attraction ; in June the *Ficus tsiela* was in fruit and the Green Pigeons seemed to be feeding on the figs.

On 15th May something unusual about a Pigeon on a nest high up in a babool on the Lodi Golf Links attracted me : I notice a blue-grey head and a very light coloured bill, a red eye, a neck with no ring but showing some yellow, white on the edge of the closed wing and white under parts. But the details are not easy to determine. Not only is the nest high up, but as I walk round the tree trying to get another view, the sitting bird shifts on the nest and always presents its tail. However, I do see that the neck and breast are yellow, and that the under tail-coverts have partially pink-brown tips. A bird is on the nest for the rest of the month : on 6th June the nest is empty, but there are two Green Pigeons in another babool not far from the nesting tree. Perhaps the bird I had seen on the nest was a youngster.

The Green Pigeons in the Aliganj Nursery were first noticed on 3rd June : a bird was on a nest 30 feet up in a flowering tree. The nest is not a very substantial affair. On 9th June the nest is empty : here again the bird seen may have been a young one. On 24th June there is a party of some half dozen in the Nursery.

The following year on 30th May a party of about ten Green Pigeons is in the Aliganj Nursery and there are two birds on nests in a large pink flowering *cassia*. The nests, both of them on the outer branches and one of them in a more or less horizontal fork, are very small and flimsy looking as if they could only be kept in position by the weight of the bird. Beside each of the birds on the nest a second bird is standing. Next day the birds on the nests are alone. In another pink *cassia* about 100 yards away a third pair is seen nesting. The two birds on the first *cassia* are on their nests till 19th June : on that day two other birds are nearby and the rest of the party arrives from a *Ficus tsiela* tree.

On 1st June the third pair is still building : one bird remains on the nest adjusting the twigs brought by its mate. The latter is getting these from a nearby tree ; it breaks off a twig, flies back

with this in its bill and gives it to the bird on the nest. A pair of King-Crows, and also a pair of Bulbuls are building in the same tree.

BLUE ROCK-PIGEON

Columba livia Gmelin

Blue Rock-Pigeons are numerous : their flocks haunt about ruins and feed in the open cultivation. The tombs in the Lodi Gardens were a regular haunt : Humayun's Tomb was another. For a period in September and October a band roosted regularly in a neem tree on the edge of the built up area.

In the early mornings large flocks of these Pigeons were to be seen flying out to their feeding grounds in the fields where they would be found in parties on the plough, in the corn and about threshing floors.

In the evenings, and also at midday, these Pigeons fly to drink at pools and in the river : they fly in ones and twos, and also in flocks. The birds alight close to a pool or to a shallow 'lagoon' in the river, walk into the water, bathe and drink.

Several nests were noticed in May, all of them in ruins. They were usually substantially built of twigs and were placed on ledges. There was no noticeable break up of the flocks at this time.

* RUFOUS TURTLE-DOVE

Streptopelia orientalis

Occasionally seen on spring and autumn migration.

SPOTTED DOVE

Streptopelia chinensis

Only three of these Doves were seen. On 1st March two were noticed in a tree near a bamboo clump in the Aliganj Nursery, and during the rest of the month and throughout April there was nearly always one Spotted Dove near the bamboos, but I did not

see two together again.

The only other record was a single bird on 9th April on the waste land south of the Lodi Golf Links.

LITTLE BROWN DOVE

Streptopelia senegalensis

Little Brown Doves occurred plentifully and generally over the area but were less numerous than *S. risoria* : they were also less noisy. They were met in pairs and in small parties. They were most often perhaps amongst babools and by roadsides, but were not shy of dwellings. The birds seem to favour certain haunts — a particular tree it may be — and spend much of their time there. They occur in the cultivation and on the plough and commonly perch on the telegraph wire. They often feed in company with Red Turtle-Doves and with Ring-Doves.

Nests were found from May to October, but May was the month when most nests with eggs were found. The nest was usually low down, three or four feet up in a small tree or thicket, but sometimes it was placed on a ledge in a ruin. It is made of fine twigs lined perhaps with rootlets. A nest found on 22nd May, three feet up in a babool and well concealed by overhanging stems, held two eggs : on 25th May there was one nestling in the nest which grew rapidly and soon filled the nest. On 29th May the youngster looked well feathered : on 31st May the nest was empty.

The call of the Little Brown Dove is 'cucurru-cuc-cu'.

INDIAN RING-DOVE

Streptopelia risoria

The chorus of the Ring-Doves was always a feature of the early mornings. As the sky assumed its first yellow tinge, an occasional 'cuc-er-coo' from an individual Dove would be heard. Then as the yellow colour turned to pink, a sort of mass cooing would suddenly break out. It would not last long. Often much the same performance would take place in the evening after sunset. The Ring-Dove's

call is to be heard all through the year and at most hours of the day. Frequently the calls of one bird are answered by those of another.

Ring-Doves occur plentifully and generally. They are to be met in couples and in loose flocks. Bands will be found feeding on the ground, on the stubble and in the crops. The birds gather in trees and along telegraph wires : often more than 100 will collect on a wire before flying in to roost.

The nesting season is a long one ; nests with eggs were found from March to October, but the peak seemed to be in May and June with another high level in September. Displays, both in the air and on the ground were noticed in March and subsequently : the air display consists of a steep flap upwards followed by a plane down ; on the ground the male with throat puffed out bows to its mate. All the nests found were in trees or bushes — the babool was most popular—at heights between six feet and fifteen. Occasionally two nests were in the same tree ; not infrequently the Ring-Dove's nest was in close proximity to that of a King-Crow. The structure itself is an ill-supported flimsy platform.

Ring-Doves are probably victimized by Tree-Pies and also by House Crows : they clearly resent the presence of these predators, and are often seen pursuing them. A Hawk plucking a bird it had killed seemed to cause no concern at all to several Ring-Doves in the next tree.

RED TURTLE-DOVE

Ænopopelia tranquebarica

The Red Turtle-Dove frequents woodland, parkland and open cultivation. It occurs in pairs, parties and bands and sometimes in company with Ring-Doves. The Red Turtle-Doves are not nearly as numerous as the Ring-Doves and, where mixed gatherings were seen on the telegraph wire, the former would not be more than 10 per cent of the company.

The Red Turtle-Doves seemed very local in their distribution, and are perhaps subject to some local movement. There were some places — the Lodi Golf Links was one — where the birds would be locally dominant for a while : this was the case several times

on some of the fairways and greens, but after a period, a couple of months perhaps, the Doves would go elsewhere. When seen with the Ring-Dove, the Red Turtle-Dove is a noticeably smaller bird. Its call is a distinctive 'cot-cotcadu' repeated many times and is used on all occasions : a male bowing to its mate utters it.

The nesting season is a long one : nests were found from April to October. They were all in trees, often at a considerable height, up to say 30 feet, and more than once a tree was chosen which was also occupied by a pair of King-Crows. The nest of the Red Turtle-Dove is a flimsy structure even for a Dove.

* IMPERIAL SANDGROUSE

Pterocles orientalis

Occasionally in winter in sandy country.

* PAINTED SANDGROUSE

Pterocles indicus

A few in waste country to the west of Delhi.

COMMON SANDGROUSE

Pterocles exustus

Small bands and parties of Sandgrouse were seen flying to and from the river. The largest band numbered about 16. The birds call as they fly. Some bands went to drink at the Qadipur jheel.

When a band arrives at its drinking place it will settle close to the water's edge. Then the birds walk down to and just into the water where they take three or four sips, walk back and fly off. Between 12.30 pm. and 1 pm. on one occasion, some 6-8 small parties of from 3-8 birds each arrived and drank in this quick fashion. No party took more than ten seconds between alighting by the water and flying away after drinking.

Only one nest was found — on 4th March — on a rocky knoll

near the Rajput Dam. The nest was a scrape amongst low zizyphus. It was lined with a few grass bents and had three eggs. I saw no other nest in the vicinity.

COMMON PEA FOWL

Pavo cristatus

The Peafowl haunts light woodland, the larger gardens and cultivation, but not the open country. Its '*piaow*' call is a familiar sound in the early mornings and is also heard, although less frequently, in the evenings.

The bird has another call — a sort of braying '*ee-haw*' — the use of which may be connected with the breeding season. I noticed it first in April and heard it as late as August.

The nesting season was probably during the rains, but birds were displaying much earlier and may do so perhaps at almost any time of the year. I saw a male in December in the shelter of a bush displaying to a female.

In April a bird which I thought was a juvenile as it had no train was displaying. The following month a male in a hollow in the Ali-ganj Nursery was turning slowly round with fully expanded tail : no female was in sight. In June, display was noticed more often. Sometimes the females are not visible, sometimes they are feeding nearby. In either case the male revolves slowly, fully expanded tail concave towards its head : the back view almost as striking as the front, chestnut primaries drooped and shaking, under tail-coverts raised in a sort of ball : momentarily the whole plumage quivers.

Males with their harems were very noticeable in May. On one occasion a male walked down to a canal to drink : after it had drunk and left, two females came down to the water, then a third, after that a fourth and finally a fifth. On another day in May, a male was seen with four females. Whether the harems were formed each year or were maintained to some extent continuously was not obvious, as harems were noticed in December, January and February.

Nesting is probably in July. In August nests were found with eggs recently hatched : the site of one was in some thick herbage

at the foot of a tree in the Aliganj Nursery. Once or twice Peahens were treed by dogs : they called 'ee-haw' repeatedly and may have had young hidden near.

At sunset on 6th October a Peahen is in a large babool in the Lodi Gardens. The bird seems anxious, and presently a chick, about the size of a partridge, flies up too. The old bird has moved higher up the tree and the chick follows, partly by flying, partly by scrambling. The chick reaches the Peahen and for a short while perches on her back. She continues anxious and utters a rather loud call like the noise made by an old fashioned motor horn. A second chick now flies up from the vegetation below, but half way up the tree sails off to the ground again. The Peahen now sails down and the first youngster follows her. Eventually she collects both in a small tree. After a while she flies back to her original tree and the two youngsters join her. She seems to be settling for the night on a branch quite 40 feet up with a chick under each wing. Next morning at daybreak the Peahen and chicks are still in their roosting place. When it is full light, the family comes down. They did not roost in that tree the following night : I think they moved across the road.

COMMON QUAIL

Coturnix coturnix

Quails were seen between October and April. They were seen most frequently in March and April. The numbers seen were not large : single birds were put up from a variety of places in the more open areas. Possibly the crops held more.

RAIN-QUAIL

Coturnix coromandelicus

My only records were from the Lodi Golf Links where a bird was occasionally put up from short rough grass on the edges of thickets. May, June and September were the months in which it was seen.

* JUNGLE BUSH-QUAIL

Perdicula asiatica

No recent record.

BLACK PARTRIDGE

Francolinus francolinus

The Black Partridge is heard far more often than is seen. Its harsh 'pee-peehip-pee-ha' comes from reed-beds, tamarisk and coarse grass near the river. Often the call is uttered within a few feet of the would be observers, but the bird is not visible. The usual view one has of it is a mere glimpse as it flies from one patch of cover to the next.

GREY PARTRIDGE

Francolinus pondicerianus

The Grey Partridge occurs almost generally over the area—in gardens, woods, waste land and cultivation. Its calls are a feature of the mornings and evenings. A bird will start with a 'pee-pee' and break into 'pee-tup—pee-tup'. Often the clamour of several will break out quite suddenly. The calls of one bird may be taken up by a second and then by others. This Partridge calls in every month of the year. As well as the 'pee-tup' call there is also a 'bickersee' call.

The Grey Partridge was met singly and in couples, but on a few occasions in December and January small parties of six-eight or so were seen on the plough and on the fairways of the Lodi Golf Links. The birds frequently perch in trees and probably roost there.

The nesting season seemed an extended one. Adults with chicks were seen in May, June, August and October.

*** LITTLE BUTTON-QUAIL***Turnix sylvatica*

One doubtful observation in May.

*** INDIAN BUTTON-QUAIL***Turnix maculatus*

Doubtful records — May and August,

*** BUSTARD-QUAIL***Turnix suscitator*

Recorded in April and May.

BLUE-BREASTED BANDED RAIL*Hypotaenidia striata*

These Rails were met in small numbers in some of the reed-fringed pools. They were to be seen walking or wading about the shallow water. My records were in the months of March, April and May.

BAILLON'S CRAKE*Porzana pusilla*

This Crake was only noticed twice. In March one got up from the edge of a jheel, flew a few yards and disappeared among the reeds: a second bird followed. The second occasion was in October when a Crake got up from the edge of a jheel.

WHITE-BREASTED WATERHEN

Amaurornis phænicura

White-breasted Waterhens did not seem numerous. They were met singly and in couples by small streams and pools often close to human habitations, but always where there was good cover handy.

The rufous under tail-coverts narrowly edged with black are constantly flicked or cocked as the bird moves about in shallow water or stands suspicious and alert in cover on the edge of a pool.

WATERHEN OR MOORHEN

Gallinula chloropus

These Waterhens were met in small numbers at reed-fringed pools. They were to be seen swimming about the open water or, if not visible, might be heard croaking among the reeds. As the bird swims off it shows white under tail-coverts with a black patch in the centre.

* PURPLE MOORHEN

Porphyrio poliocephalus

Has been seen at jheels in winter.

COMMON COOT

Fulica atra

The Coot is apparently a winter visitor. It was only seen between October and February. The species was not numerous : four was the largest number seen together. The larger jheels and ponds with open water were the haunts of the Coot.

COMMON CRANE

Grus grus

Common Cranes were only seen twice. The first record was on 2nd April: I heard a honk overhead and saw about 30 Cranes in four rough vees sailing towards Okhla, their wings still and their necks outstretched. On 31st December, 24 Cranes flew overhead in an uneven vee, calling as they flew.

* GREAT WHITE CRANE

Grus leucogeranus

An old record from Delhi (c.f. Fauna of British India).

SARUS CRANE

Antigone antigone

The Sarus Crane is a resident species. It is a bird of the open country near the river or by jheels. Muddy creeks and sand-banks in the river, flooded fields and dry open grass land and stubble, these were the haunts of the Sarus Cranes. The birds were usually in pairs — a pair apparently keeping together throughout the year. Now and again three birds were seen together : in November a party of ten was met and in May a band of nearly 20.

The Sarus Crane is a silent bird. Only once did I hear them call : something had disturbed a pair and the birds were uttering a shrill whirring sound.

Dancing was seen in April. Two pairs in a creek near Okhla were apparently bickering. After a while one couple flew off and one of the two remaining birds started to dance. He began by bowing. Then he ran round his mate flapping his wings, and every now and again making little jumps : the stationary bird held herself erect in the centre of the 'circle'.

* In the experience of many observers, the Sarus Crane is very far from silent. Its loud trumpeting call attention to it long before

it is visible; sometimes and, when several are standing near a wheel, they often trumpet. Trumpeting also accompanies dancing as a rule.

* DEMOISELLE CRANE

Anthropoides virgo

Parties occur near the river, or passing overhead between November and April.

* GREAT INDIAN BUSTARD

Choriotis nigriceps

There are old records from near Delhi.

* HOUBARA

Chlamydotis undulata

The records of the Houbara are old and rather doubtful.

STONE-CURLEW

Burhinus ædicnemus

A few Stone-Curlews frequented the larger gardens of New Delhi, spending the day-time there quietly and inconspicuously and flying out at dusk or after dark to feed in the open country. The birds are scarcely visible as they fly, but are readily recognized by their calls. Once or twice I came upon Stone-Curlews in the fields during the day-time: there were three one day in September on the plough.

Nests were found between April and June. Two Stone-Curlews had regularly haunted a part of the Lodi Gardens during April: on the 28th I see one bird squatting on the ground. It runs off as I walk up and I see a second bird make off also. The first bird had left a nest containing one egg. The nest was a scrape near the foot of a low bank: it was just within the shade of a clump of babools,

two drooping branches from one of the trees hanging quite near the nest. The bird sat on the one egg until mid-May. On 11th May she is sitting very closely but not in her usual upright posture : instead she is lying outstretched on the nest. On 18th May the nest is empty : I see no sign of a youngster, but one of the adults is there and slips away in its usual quiet fashion.

Another nest was seen in a garden on 10th June : it held two eggs. This nest was on the edge of a lawn near a tree, and whilst one bird was on the nest its mate would be standing a few yards away. As I approached both birds would leave, first at a walk, then running to the edge of a shrubbery where they would squat in the short grass.

GREAT STONE-PLOVER

Esacus recurvirostris

Great Stone-Plovers haunted the river. They were to be found on sand-banks in the river, on its sandy edges, on stretches of mud and occasionally on the plough near the bank. A flock of about 30 was seen in January, but at other times the gatherings were smaller and on many occasions single birds and parties of less than half a dozen were met. The birds were usually squatting or standing in the sand. On one occasion a party of ten was on the plough with half a dozen Sociable Plovers : they flew back to their true haunt ; the sand by the river's edge.

The only nest found was in April on an island in the river. I saw the bird on the sand there as I waded across. It got up and flew round in a wide circle alighting again when I went on to a second island. It was now in the same place where I had first seen it. I went back and found the nest there, a scrape in the sand amongst some very thin vegetation including a couple of yellow 'daisies'. There were two large pointed eggs, mottled and scabbled dark on a pale buff background. The owner had run off well ahead of me and had got up when some distance from the nest.

The Great Stone-Plover looks as if it had yellow rimmed spectacles.

* INDIAN COURSER

Cursorius coromandelicus

Resident. Small parties at the edge of cultivated land.

LARGE INDIAN PRATINCOLE

Glareola maldivarum

The Large Indian Pratincole occurs on passage in the autumn and also, although much less numerous, on the return journey in the spring. On 13th August a flock of about 100 of these Pratincoles settled on a muddy field near the river. They were in a compact body, crouching and squatting on the ground. Some of the birds were preening, and when a wing was raised, the chestnut auxiliaries and under tail-coverts caught the eye. They were not shy, and I was able to walk almost up to them. When they did get up they uttered short calls and flew off just skimming the ground. They did not go far before alighting again.

A week later, a flock which I took to be the same was still there. The ground was much drier now and, against its rather broken surface, the brown coloured Pratincoles were difficult to see. Again I found them tame and disinclined to fly far. As they got up they showed a chestnut under-wing and white tail : most of them had no definite dark line down the side of the throat.

On 27th August this flock is in a patch of rough dry plough. The birds keep still even when I have come up close to them. Several showed the dark face and throat ring very clearly. On 3rd September the flock was still on the plough and might easily escape notice were it not for the sudden gleams of white as birds lift their wings to preen.

On 14th September a large flock appeared, seemed about to settle and then flew on. On 17th September there was a band of about 40 on a sand-bank. Sand-banks in the river were favourite haunts of these Pratincoles. They always settled in closely packed flocks.

Once — on 30th September — a flock was found hawking back and forth, fairly high over a swamp. The birds were in a widely

scattered formation and were flying with rather quick beats of their narrow bent wings. The white base of the tail was conspicuous and, sometimes when a bird came over, the red under-wing would be seen.

The latest dates on which these Pratincoles were seen were 5th and 7th October ; a band on a sand-bank on the earlier date and a single bird flying by on the later occasion.

Spring records were confined to a single bird on a sand-bank on 22nd April, half a dozen flying by on 9th May and four flying by on 13th May.

LITTLE INDIAN PRATINCOLE

Glareola lactea

The Little Indian Pratincole was only seen in February. On 6th February one or two of these birds were beating to and fro over the river, and I came upon five on a spit by the water's edge. Tern-like in shape and action the flying birds occasionally dipped to the water. A flock of about 40 flew by on 13th February and on 20th February there were several hundreds (I counted 300 and there were many more) on the ground by the river. Numbers were flying to and fro very low over the water which was calm and unrippled ; others were on the edge of a sand-bank. All were very tame. When put up they flew off in packs.

* This species breeds on sand-banks by the Jumna, and in recent years it has been much more conspicuous than the Large Pratincole, and remains till October.

* BRONZE-WINGED JACANA

Metopidius indicus

Observed recently on jheels east of Delhi.

PHEASANT-TAILED JACANA

Hydrophasianus chirurgus

Jacanas were not seen often. The first occasion was in June near

the mouth of the Stadium drain where a shallow creek ran into a large mud bank. By the edge of the creek a dozen Jacanas were feeding. Their long wavy tails looked out of place on a mud flat. One of the group was still in its non-breeding plumage ; it was without the long tail and looked grey and white. When the birds got up and flew off they carried their tails trailed straight : their wings looked almost entirely white and the body plumage dark.

In November a party of nine Jacanas was flying about together on the Qadipur jheel. The other records — all in October — were of single birds and couples, all in non-breeding plumage, on the large jheels.

* A not uncommon breeding bird on pools near Delhi. Breeding takes place after the rains.

RED-WATTLED LAPWING

Lobivanellus indicus

The Red-wattled Lapwing is primarily a bird of the open cultivation and was most numerous in the riverain belt. But it also frequented the larger gardens some of which, the Aliganj Nursery for example, seemed to have several of these in more or less permanent residence. About half a dozen I thought spent most of the year in the Aliganj Nursery, but the much larger Lodi Gardens alongside were visited only for nesting and then by not more than a pair or two.

The Red-wattled Lapwings were met in ones, twos and in parties up to half a dozen or so. Nine was the largest number I saw together. The birds were to be found on the plough, in the corn, by pools and jheels and about the river and along canals : in the Aliganj Nursery watered flower beds seemed particularly popular. These Lapwings in the Aliganj Nursery used to set up quite a chorus before sunrise, beginning with a series of 'peep-peep-peep' and ending with a 'did-you-do-it'.

In February Lapwings became noticeably noisy : they swooped up and down over the fields calling loudly. All their swoops up and down are made with wings flapping : there is no sailing on wings held stationary. In March the birds were mostly in couples and appeared

to be taking up nesting quarters. The earliest nest I found was one in the Lodi Gardens in much the same place occupied by a pair the previous year and containing, on 27th April, three eggs. May seemed the principal month for nesting. Nests were found in a variety of situations, on sand-banks amongst grass and low tamarisk, on bare earth in an area of low grass in the Lodi Gardens, in an unplanted flower bed and on ashes in a rubbish dump, amongst rusty tins and pieces of brick. The nest is a shallow scrape sometimes containing a few bents. More often than not, whilst one bird is on the nest the other will be standing at no great distance, 20 or 40 yards away, and this bird, on the approach of an intruder, calls and makes itself conspicuous, attracting attention whilst the sitting bird runs off quietly.

The bird on guard will fly at any other bird which ventures too near. I have seen a Lapwing make stoops at a Peacock which was walking by. It becomes most aggressive after the eggs have hatched. Then it flies at passing Crows and even stoops at inoffensive Doves. On one occasion, two adult Lapwings were on guard over a couple of chicks on the edge of a swamp. A Painted Snipe, which had settled too near for their liking, was at once chased off. Then both birds flew at a Neophron which came overhead. Next a Stint was attacked although this was well away from the chicks. But a party of eight pigs which emerged from a village and crossed the swamp in single file was too formidable : all they could do here was to hurry the chicks just clear of the pigs' route, and stand with them in great agitation until the pigs had passed.

The Lapwing chicks have the crown and upper parts grey-brown : the breast and belly are white and there is white on either side of the throat.

* YELLOW-WATTLED LAPWING

Lobipluvia malabarica

Uncommon in dry uncultivated country; they are probably resident.

KENTISH PLOVER

Leucopoliuss alexandrinus

My only records of the Kentish Plover were on 12th March and on 22nd April. On the earlier date I came upon a dozen of the birds close together, squatting in the hoof marks made by cattle on a sand-bank. On my approach they edged away a short distance and squatted again. On the second occasion I saw a flock of about 40 Kentish Plovers on a sand-bank.

* Not uncommon in spring migration and also occurring in winter by the sides of large jheels.

LITTLE RING-PLOVER

Charadrius dubius Scopoli

This species is primarily a bird of the river frequenting the water's edge and sand-banks. In the winter — from September to January — it is often met in parties up to ten or so which may be seen resting together on the dry sand, feeding on the wet sand or mud close to the water's edge and sometimes wading in the shallows. At other times of the year it usually occurs singly or in couples. Flooded areas and jheels also attract the birds, and I have found a couple as far from the river as the Rajput Lake.

When feeding, the Little Ring-Plover makes little runs or darts forward and then often shakes so fast as to stir up the mud.

Nesting is probably between April and June. The only nest I found was on 14th May on a sand-bank: it contained three eggs. Earlier, on 23rd April, I had come upon a bird trying to attract attention by sprawling on the sand with wings outspread and tail fully fanned and showing its white edges. I did not find a nest, but later saw a couple preening in the same spot.

* GREATER SAND-PLOVER

Charadrius leschenaultii

Single birds noted on spring migration between mid-April and early June.

*** LESSER SAND-PLOVER***Charadrius mongolus*

Parties seen in mid-winter by the Jumna ; but its appearance seems to be erratic.

GREEN PLOVER OR PEEWIT*Vanellus vanellus*

The Peewit is a winter visitor. It was met between November and February in parties and small bands : the largest gathering numbered 13 birds. Areas of short grass in the open country, often in the vicinity of jheels or flooded areas, were the usual haunts. The birds were always watchful and shy.

SOCIABLE PLOVER*Chettusia gregaria*

There were very few records of this Plover. On 7th December seven were seen with ten Great Stone-Plovers : they were shy and after walking away took flight. In January I twice met two Sociable Plovers, on the 16th and 23rd, feeding along the muddy edge of a creek in the Okhla marshes, presumably the same couple each time. Their plump build caught the eye. They flew off uttering a very weak call. The last record was on 6th February when I came upon two on some stubble. This couple was very tame and allowed me to walk up quite close and, when they did at last take to wing, they did not fly far. They were silent.

WHITE-TAILED LAPWING*Chettusia leucura*

White-tailed Lapwings are winter visitors between September and March. They were nearly always met near water, usually by

jheels, pools and flooded fields but occasionally on the edge of the river. As a rule they were in small parties of less than half a dozen, but occasionally a dozen or so were seen together. They are often with other waders — Sandpipers and Redshanks — and seemed less shy than these, staying behind when their companions took alarm and flew off.

The White-tailed Lapwing flies with rather slow Peewit-like wing beats. Its rounded wings have black ends and white centres : the legs are carried straight out. The upper plumage is uniformly brown, the breast grey and the legs yellow. When a bird stretches its wing the under side shows white with a black tip.

* In flight, a white patch shows in the secondaries and the whole tail is pure white.

SPUR-WING PLOVER

Hoplopterus duvaucelii

This Plover has a very restricted habitat. I saw it nowhere except on the sand-banks and edges of the river. There it occurred in ones, twos and/or threes and, once in a party of eight, often frequenting a particular haunt over a considerable period. The curious hunched stance, which is a characteristic of the Spur-wing Plover, catches the eye at once. Its call is 'peep-peep-peep'.

Nesting was in May and June. The sites were on sand-banks, sometimes close to the nests of Skimmers or other river nesting species. The nest is a shallow scrape and may have a little dry grass. Four eggs is the full clutch and, in the only nest seen with this number (on 20th May), the eggs did not lie with all the points towards the centre.

* GREY PLOVER

Squatarola squatarola

Single birds seen by the river in winter.

*** AVOCET***Recurvirostra avocetta*

Several records from the Jumna in April and May.

CURLEW*Numenius arquata*

Curlews were winter visitors seen between October and March. My earliest record was on 3rd October when I came upon three wading in a pool. They were always about the river or in its vicinity. The largest number seen together was a band of about a dozen feeding among some rough grass. My other records were of one and of four birds. They call in flight and on the ground.

*** BLACK-TAILED GODWIT***Limosa limosa*

Common by the larger jheels between September and May ; numbers vary from year to year. Also seen by the river.

BLACK-WINGED STILT*Himantopus himantopus*

Black-winged Stilts are birds of rivers and jheels ; they also visit flooded fields. They were met in parties and in bands up to 30 or so, wading purposefully but gracefully on their long slender legs, or resting on the sand-banks sometimes with Greenshanks and other waders. A feeding bird will often upend almost vertically to pick up something under the shallow water and almost at its feet. In flight the long legs are trailed.

In May, whilst some of the birds were still in their winter plumage with the whole head white, others were beginning to put on their breeding dress and had a certain amount of black or grey on the crown.

COMMON SANDPIPER

Tringa hypoleucus

The Common Sandpiper is a winter visitor but the period over which it occurs covers nine months or so, since birds begin to arrive in August and some do not leave before mid-May. My first record was 13th August and my last 13th May.

The bird is plentiful : it is usually met singly, but twos and threes were not uncommon. Single birds and parties would often keep company with other Sandpipers generally with *T. ochropus*. Once on 25th March a flock of quite 50 *T. hypoleucus* and *T. glareola* with two or three Marsh Sandpipers was seen by a shallow swamp. This may have been a migration gathering.

The Common Sandpiper haunts the edges of rivers, canals, jheels and pools. A favourite spot for single birds was close to the water's edge at the foot of a canal or river bank.

GREEN SANDPIPER

Tringa ochropus

This Sandpiper seemed rather more numerous than *T. hypoleucus*. It was also less solitary and not so much a river bird. Canals, drains, flooded borrow-pits, jheels, pools and flooded fields, also sewage beds, were all common haunts. Although met singly on perhaps the majority of occasions, couples were almost as usual and now and again small parties were met.

When disturbed the Green Sandpiper generally flies only a short way and then alights. When it is on the ground the edges of the black and white bars on the tail show clearly. I once heard a bird flying over calling 'tu-whee-tu-whee'.

My earliest record was 2nd July and my latest 13th May. I thought the move north began in April.

WOOD-SANDPIPER

Tringa glareola

Wood-Sandpipers were much less numerous than *T. ochropus*. They were usually met singly but occurred in parties, sometimes, and also occasionally in bands. These last which were noticed in March and April and in October may have been birds on migration. The bands were mixed as a rule, sometimes with *T. hypoleucus*, sometimes with *T. ochropus* and sometimes with both of these species.

The Wood-Sandpiper frequents the edges of canals, jheels, pools and flooded tracts. Often it feeds in company with other Sandpipers and waders.

It has a very noticeable white line over the eye meeting above the bill.

* In recent years Wood-Sandpipers have been found the most abundant species near Delhi, especially at all muddy pools.

MARSH SANDPIPER

Tringa stagnatalis

This species was the least numerous of the Sandpipers. My records were only in April and May and in September and October which suggests that the Marsh Sandpiper is a passage migrant and not a winter visitor.

The birds were seen by jheels, pools and flooded tracts, singly and in small parties. They are noticeably long-legged and slender. The head and neck look whitish-grey or white, streaked and flecked with darker grey : the wings are speckled and the bill is slightly upcurved in some cases, dead straight in others.

REDSHANK

Tringa totanus

Redshanks are winter visitors, arriving in August and leaving in April or March. They are usually in parties or bands, sometimes in flocks up to about 50 and occasionally occurred singly. Jheels,

pools, flooded fields and the edges of the river were their usual haunts. I found that the parties and bands were shy and difficult to approach.

The Redshank swims freely, and individuals were several times seen doing this and upending like a duck and showing the white under tail-coverts. One Redshank swam across a jheel with a party of Teal. Another was noticed swimming in a weed covered pool where it picked up a small frog. The bird seemed to have some difficulty in squeezing the frog to death, but it did so and ate the creature.

In flight the Redshank shows a very distinct pattern — the forepart of the wing is dark, and the rear border and the bird's back are white. It calls '*tsweet-tsweet*' as it flies off.

DUSKY REDSHANK

Tringa erythropus

My records of this species were only three, all in March and April. The earliest was on 25th March when I saw one Dusky Redshank on the Midanpur swamp with half a dozen *T. totanus*. On 8th April, on a pond near Suraj Kund, a flock of some 40 Redshanks were swimming about on the edge : most, if not all, were Dusky Redshanks. Only one or two looked at all uniformly black and many were as light beneath as *T. totanus* or nearly so, but nine of them showed the white rear edge of the wing in flight. They swam freely, and both alighted in the water and took flight from it. They called '*tuweet*'.

On 16th April I saw some Dusky Redshanks among a flock of waders near Okhla, and later came upon two wading with a Greenshank in a reed-fringed pool, the Dusky Redshank working far more energetically than the other bird. The trio got up when a low flying Harrier came by, but were back almost at once — the two Redshanks as busy as before, one of them frequently immersing the whole head.

* Dusky Redshanks may be seen by jheels throughout the winter.

GREENSHANK

Tringa nebularia

These are winter visitors, less numerous than the Redshanks. They were met singly, in parties and in bands about the river and by jheels, pools and canals. They do swim a little, but are usually wading, often up to the belly, or running through the shallows.

As the Greenshank flies off it calls 'tu-tu-tu' but another call heard as two of the birds got up from a small pool was 'tee-tip'. In flight the bird shows no white rear edge to the wing.

A band, more than 30 strong was seen in February, but this was exceptional. The Greenshanks arrive in August and leave in April, probably during the second half of that month.

* In recent years the Greenshank is much more plentiful than the Redshank. Some remain till middle or late May.

RUFF AND REEVE

Philomachus pugnax

These birds were only recorded in October and November. On 20th October three were seen on some mud : they were noticeably larger than the Redshank and looked white underneath ; in flight a narrow white wing-bar caught the eye. Next day a party of seven flew up and settled on the edge of a jheel and a little later a band of 30 or more was met. The latter got up very wild but settled again amongst coarse grass. On the ground they looked large and up-standing with rather short legs. They did not call.

On 3rd November about a dozen of these birds were seen among coarse grass by a shallow flooded patch.

* A common passage migrant at both seasons.

LITTLE STINT

Erolia minuta

The Little Stints were winter visitors arriving I think in August :

the majority had left by April. They were met in parties, bands and flocks about the river and on flooded tracts and jheels in its vicinity. Flocks of 100 birds or more were not uncommon.

Sand-banks in the river were very favourite haunts. The Little Stints would rest there in closely packed gatherings and would feed in the shallows along its edge. When they took flight the birds all rise together and, as the flock turned in the air, would flash dark and white alternately. The rear edge of the wing shows white and there is a dark centre to the white tail.

* This description of the tail fits Temminck's Stint rather than the Little Stint.

TEMMINCK'S STINT

Erolia temminckii

These were not birds of the river like *E. minuta*. They frequented canals, ponds, jheels and flooded tracts. They were met singly and in small parties from October to May.

* Recent observations on the Stints do not agree with the above. Little Stints are plentiful passage migrants, but are rare or absent in mid-winter. Temminck's Stint is by far the commoner species. It is found in flocks throughout the winter and is common by the river.

DUNLIN

Erolia alpina

Dunlins were not identified with certainty. They probably occur as winter migrants in small numbers by rivers, pools and flooded patches.

* Single birds or small numbers noted in November, December, January, April, May.

COMMON SNIPE

Capella gallinago

The Common Snipe is a winter visitor between September and April. At times they are plentiful in certain localities, their distribution and numbers dependent no doubt upon feeding conditions.

The birds were first noticed on 10th September and these might well have been newly arrived, for they were disinclined to get up or fly far, and did not go off with the usual 'scape'. One such bird which had alighted on the edge of a flooded patch made off through the shallow water crouching low as if to take advantage of the cover afforded by the tops of the grasses protruding above the surface : it moved fast and so smoothly through the water that I think it must have been swimming.

In March I thought the Snipe were fewer than in February, but there was no great decrease till the second half of the month. By mid-April all had left.

* PINTAIL SNIPE

Capella stenura

Almost impossible to identify in the field, but shooting records indicate that this species occurs in early autumn and late spring : possibly at other seasons.

JACK-SNIPE

Lymnocyrtus minimus

Jack-Snipe were seen in October and February. They were put up from the coarse grass about the edges of jheels. At one jheel, on 21st October where Jack-Snipe and Common Snipe were both plentiful, some two of the former were getting up for every one of the latter. The Jack-Snipe got up silently and usually came round and settled again not far from where it had been flushed.

* Fairly plentiful winter visitors to the muddy edges of swamps or jheels.

PAINTED SNIPE

Rostratula benghalensis

The Painted Snipe was seen on some half dozen occasions, always a single bird, in February, May, June and July amongst rushes or reedy grass on the edges of swamps and jheels.

* It has also been recorded in April and in November.

* GREAT BLACK-HEADED GULL

Larus ichthyaetus

Records of single birds by the Jumna — October, November and April.

BLACK-HEADED GULL

Larus ridibundus

Two records in February, a dozen birds on each occasion and possibly the same band about Okhla, and a single bird on 27th May on a stretch of mud in the Hindan river were all I saw of the Black-headed Gull.

* Occasional on passage and in winter.

* BROWN-HEADED GULL

Larus brunneicephalus

Several records, chiefly from the river — January, April, May, October.

YELLOW-LEGGED HERRING GULL

Larus cachinnans

My only record of this Gull was a single bird at Okhla weir on 7th January.

* Also an October record.

*** WHISKERED TERN***Chlidonias hybrida*

Small parties over flood water in early autumn. Single birds in winter and spring.

*** BLACK TERN***Chlidonias nigra*

One seen at very close range on two separate dates in October 1949; the dark feathers on the neck were very noticeable.

RIVER TERN*Sterna aurantia*

The true haunts of these Terns are the rivers, but the birds also beat along canals and about jheels and ponds. I have seen several, too, flying up and down above the tanks on the Vista. This species is more numerous than *S. melanogaster* with which it often keeps company both when resting on a sand-bank and whilst fishing. The River Tern is the noisier of the two species.

Nesting began in April. On 9th April I saw a River Tern bringing a fish to its mate squatting on a sand-bank. There were three largish sand-banks in the River Jumna here, and when I visited them the River Terns were nesting together with *S. melanogaster* and *S. albifrons*. The nests of the River Terns were mostly on the bare sand, but some were placed amongst thin vegetation. In the majority of cases there was no material, but one or two scrapes contained pieces of dried grass, possibly only when this material happened to have been lying about close to the scrape. The nests held three, two and one egg variously and there were many with none. It is quite possible that they had been robbed. The eggs of this Tern are considerably larger than those of *S. melanogaster*. Two distinct ground colours — greenish and buff-stone — the latter the more common, were noticed. The scrape of the River Tern is larger than

that of *S. melanogaster* and considerably bigger than the scrape made by *S. albifrons*.

On an adjacent sand-bank a flock of Crows was waiting for opportunities to slip across and rob the Terns. I saw one Crow make a dash, and immediately the whole Tern colony rose to mob it. The Crow flew low with Tern after Tern diving at it ; I never saw an actual strike, but nonetheless the Crow was driven down to the sand where it crouched and ducked every time a Tern swooped at it. After a moment or two it tried to get away but was again driven down. Its next attempt was successful and although pursued across the creek it escaped unscathed. I watched two more Crows attempt raids, only to fail in a similar fashion.

On 7th May many of the nests in the Tern colony contained newly hatched chicks, everyone of which lay quite still with head stretched out on the sand. Most of the chicks were actually in the scrapes, but one or two were a foot or so away. In those parts of the colony where there were chicks, the adult Terns made frequent dives at me, coming down with shrill screams and almost vertically. They had not done this on my earlier visit, nor did they do so now in those parts of the colony where the nests still held eggs. The Tern chicks had pink bills and legs : the upper parts were a light buff speckled black and the under parts were white. One chick older than the rest was seen : it was some seven inches long and lay motionless like the others filling the scrape : its general colouring was the same, but its bill and feet were more yellow than pink.

On 14th May there were not nearly as many Tern chicks as I had expected. There were still many nests with eggs and only two chicks were seen which did not look newly hatched. One of these was swimming in a pool after which it set off on a trip across the wet sand. An adult kept swooping at it, but whether in an endeavour to shepherd it along or aggressively I could not determine. There was no clue as to what had happened to the chicks seen the week before. No Crows were about. A White-backed Vulture appeared and was chased off by the Terns. They were even more aggressive on this visit and my topee was struck and punctured on several occasions : I could not be sure whether this was done with the bill or with the feet.

On 28th May the adults were flying round noisily, but did not dive at me as they had done. Several fishermen who were about may have disturbed them. I saw nests with eggs just hatching, with chicks a day or two old, chicks six-seven inches long still downy, feathered chicks and fledglings able to fly. All the youngsters except the last were either squatting in the sand, which was quite cool in the early morning, or were on the edge of the grass and low herbage. The pink colour of the bill apparently changes to yellowish when the feather stage is reached. The fledglings able to fly were greyish above and lacked the black crown of the adults. One nest had quite a pad of reed bents—there were plenty of these close by.

On 4th June the Terns on the sand-bank were noticeably fewer. There were very few eggs or youngsters and the adults, although still anxious and aggressive, were less so than previously.

*COMMON TERN

Sterna hirundo

Single birds noted in March and April, possibly in September. Very difficult to distinguish from winter plumage of *S. melanogaster*, except by colour of bill which is red with a black tip.

BLACK-BELLIED TERN

Sterna melanogaster

This was a less numerous species than *S. aurantia*, but its haunts and habits were similar and the two nested together. The scrapes and eggs of *S. melanogaster* are smaller than those of the other.

The Black-bellied Tern looks a 'well-tailored' bird, slim and neat, a uniform pale grey above but tending to white at the edges, deep black belly and crown and orange bill.

* Immature birds and, most specimens in winter, have no black on the belly. They then look much like *S. aurantia*, but the whole build, especially the beak is more slender : their call-note is distinct.

LITTLE TERN

Sterna albifrons

The Little Terns were not numerous. As couples and individuals they haunted the river, and a small colony nested on the sand-bank with *S. aurantia* and *S. melanogaster* but rather apart from these species. Their nests were mere scrapes in the bare sand. On 23rd April a colony of half a dozen nests held one, two and three eggs.

The Little Terns are perhaps locally migratory for I saw nothing of them in October, November and December.

* They do not reappear until March and April.

*GULL-BILLED TERN

Gelochelidon nilotica

Single birds seen by the River Jumna and by large jheels January, April, May.

INDIAN SKIMMER

Rhynchops albicollis

Skimmers were not seen anywhere except on the river. There they could be found resting on sand-banks, usually in a compact party or band on some spit close to the water, or beating to and fro singly as a rule over a reach. Individuals, and one or two birds sometimes rest with River and Black-bellied Terns, but when there is a party of Skimmers these usually keep close together and often apart from other birds.

Probably the Skimmers are subject to local movements. They were seen from December to June but were not noticed during the other months. About March they seemed to be frequenting the neighbourhood of their nesting quarters. They nest on sand-banks as the Terns do. The only nests I found were a couple on 20th May on a small sandy islet. The owners were easily seen : one bird of each pair was on its nest with its mate standing close by. On my

approach the birds got up and flew round calling, one of them now and again swooping down and 'paddling' along the sand. The nest was an unlined scrape rather deeper than that of *S. aurantia*. Each of these two nests held a single egg, small for the size of the bird, a light buff in ground-colour boldly blotched dark and with rounded ends. The egg was rather smaller than that of *S. aurantia*.

The Skimmer is easily recognizable even at a distance by its black wings and white neck and breast. The large bill is orange. Standing on the sand the Skimmer seems to have an undue proportion of its bulk behind the legs : this impression is due to the length of the wings which extend beyond the tail. The Skimmer flies with relatively slow beats of the large pointed wings.

ROSY PELICAN

Pelecanus onocrotalus

The only Pelican seen was a single bird flying up the river on 22nd April.

* More frequent at large jheels. The Rosy Pelican is the only species that appears to have been satisfactorily identified in the Delhi district.

COMMON CORMORANT

Phalacrocorax carbo

The Common Cormorant is a bird of the river and jheels. It did not appear to have any regular haunts and no doubt its appearances depend upon feeding possibilities : I once saw a bird circling round the tank on the Vista.

The Common Cormorant was seen singly and sometimes in small parties : occasionally it was in company with Little Cormorants. On 28th January two flocks were met, one numbering about 40 birds — they were below the Okhla weir — the other about 70 strong about two miles downstream alighting in the sand by the river. The first flock was in a lagoon among sand-banks. There was considerable bird activity — in the shallows a flock of Smaller Egrets

with one or two Large Egrets, overhead and constantly diving, a flock of River Terns with one or two Black-bellied Terns, a dozen Herons stand on the sand a little back from all the bustle. The Cormorants were fishing : they swim in a close pack, constantly putting their heads under the water. They then waddle ashore, stand and stretch on the sand. Then they fish again.

In flight the Common Cormorant shows a white patch on the flank : and a closer view reveals a bright yellow patch on the white throat.

I did not see the Common Cormorant between March and September.

LITTLE CORMORANT

Phalacrocorax niger

Little Cormorants are primarily birds of the jheels and ponds, but they also frequent canals and were seen occasionally by the river. Their number varied and depends no doubt upon the amount and location of the water. September and October were perhaps the months when the species were most plentiful.

Little Cormorants were met singly, in parties and in bands up to 25 or so. Sometimes Common Cormorants were among the bands of Little Cormorants and, when the two species are seen together, the Little Cormorant is noticeably much smaller, about half the size of the other and looks uniformly black.

When fishing the birds dive continuously : when they come up after a dive they seldom show more than the head and neck. The Little Cormorant has the characteristic habit of standing for appreciable periods with its wings held outstretched.

No Little Cormorants were seen between April and July, nor was any nesting colony found.

INDIAN DARTER

Anhinga melanogaster

Darters were met in small numbers along canals, at pools and jheels

and by the river. The birds evidently range widely in search of suitable fishing places. There were some haunts which were frequented for considerable periods, but the birds moved about a lot and perhaps the most frequent sight of a Darter was of the bird flying overhead. It flies with its long neck kinked and peering constantly from side to side, quick wing flaps followed by a sail. The neck looks whitish in flight.

Darters were met singly, in couples and in small parties up to five. When fishing the birds swim with only their long necks and heads above the water. Coming suddenly upon a Darter in the bush the bird plunged into the water completely submerging and did not come up again till it was well away from the bank. When it did come up it merely showed its head, then sank out of sight. It did this several times.

One Darter seen on a canal bank drying its wings in company with three Little Cormorants looked very much larger than the latter.

WHITE IBIS

Threskiornis melanocephalus

The White Ibis is probably a wanderer into the area. I saw it only in October and November, a band of 15 flying by in a line on one occasion and, on the others, parties of three or four by the river ; possibly the same party each time. The black bill and legs and the black edges to the wings are noticeable.

* Occurs at various times of the year.

BLACK IBIS

Pseudibis papillosus

The Black Ibis was seen irregularly. Most of my records were in the months October, November and January but there were also in May, a single bird each time. The Black Ibis was usually in parties of half a dozen or so but a band of 11 was seen once.

The Black Ibis frequented the edges of jheels and flooded fields.

When on the ground a blue sheen is noticeable on the wings and tail, also a white patch in the middle of the forward edge of the wing and the bare neck and red crown. In flight a white blotch on the fore edge of the wing is very conspicuous. The birds usually fly off silently but on one occasion they uttered weak, rather shrill complaining calls as they got up. The band of 11 flew in an irregular vee moving slowly with a few flaps and then a sail.

GLOSSY IBIS

Plegadis falcinellus

The only record was on 22nd September when a party of six was seen feeding on some flooded grass land in the riverain belt. They got up with a sort of croak and showed a purple-green sheen as they alighted.

* A few other records.

SPOONBILL

Platalea leucorodia

In February and March flocks of Spoonbills were seen occasionally about the river. The largest flock numbering about 80 birds flew over in a rough vee, the long bill with its blob-like end carried straight out in front. Another flock, some 40 birds strong, was standing in a row in the shallow water off a sand-bank : some of these Spoonbills had their heads tucked back, others held them down as they faced the wind : Some birds stood on one leg, most on two. The tail of the gathering was formed by a Spoonbill squatting on the sand with a Darter, a Spur-wing Plover and a turtle.

At other times the Spoonbills were in parties and bands and occasionally singly or in couples in the shallows of the river and in flooded patches. One band of 16 feeding in the shallows near a sand-bank kept close together, all the birds moving in the same direction, their bills submerged. Every now and again one or two would shift their pitch and then the others would fly up and join them. They sweep their bills from side to side.

Sometimes the Spoonbills were with other species — Storks, Herons, Egrets and on one occasion a band was wheeling high overhead with a dozen White-necked Storks and a number of White-backed Vultures.

* Seen near Delhi at all seasons.

WHITE STORK

Ciconia ciconia

White Storks were only seen north of Delhi and there they were not numerous. Small parties, less than half a dozen strong were seen in the open country by wet ditches and pools usually with White-necked and other Storks.

* Seen occasionally in winter months.

BLACK STORK

Ciconia nigra

* Once seen at Suraj Kund in March.

WHITE-NECKED STORK

Dissoura episcopus

These Storks were met singly, in couples and in parties also, once or twice in small bands of a dozen or so. They frequented pools, jheels, flooded patches, creeks on the river and were also found on cultivation. On one occasion, two White-necked Storks flew off a rock on the edge of a lake and, judging by the broken shells, had been feeding on water snails.

The White-necked Storks were often with other Storks and were seen soaring with Vultures. A pond close to the Alipur road was crowded one day with Storks, Egrets and Spoonbills. The water was as full of the birds as it could be and more stood about the edge waiting to slip in directly there was an opening. The gathering included eight White-necked Storks, five White Storks and four Black-necked Storks.

BLACK-NECKED STORK

Xenorhynchus asiaticus

A small band of Black-necked Storks frequented the river. They were often on a sand-bank by the ferry east of Humayun's Tomb : I thought the birds collected there to rest whilst, for feeding, they broke into parties, couples and single birds. There were never more than a dozen birds on the sand-bank, but whether these comprised the whole of the band was not certain.

Away from the river and marshy tracts in its vicinity, these Storks were met by ponds and jheels and once or twice in the fields. Usually they did not mix with other species, but I did once come across a couple with a flock of Painted Storks.

Seen in flight the Black-necked Stork's wings have a black centre with white all round : its legs are red.

ADJUTANT STORK

Leptoptilos dubius

Adjutant birds were probably regular attendants at the refuse dump north of Delhi. I saw a dozen there once or twice in December and January. They were amongst a crowd of other scavengers which included White-backed Vultures, Neophrons, Kites, Steppe-Eagles, Bank Mynahs and pigs.

The only other place where Adjutant birds were seen on the ground was in the riverain belt, where four were met in the open with a flock of Painted Storks. The latter took alarm first and flew off. After they had gone the Adjutant birds got up with a kind of panting noise. As they flew they opened and shut their bills every second or so.

Apart from these records the birds were seen once or twice flying over or circling high up with Neophrons and White-backed Vultures.

* Their visits seem to be erratic and occasional.

PAINTED STORK

Ibis leucocephalus

Painted Storks were seen about the river, by shallow creeks and flooded areas. On one occasion in August, when these birds seemed particularly plentiful in the riverain belt, I came upon a flock of 100. This was the largest number seen together. Bands of 25 or so were not uncommon but nothing larger, and often the Painted Storks were met in small parties, in couples and singly.

When feeding, these Storks often wade more or less in line through the water, moving slowly with head down and open bill in the water. No signs of nesting were seen but in a band met on 20th August there were one or two birds smaller and greyer and showing no pink: they may have been youngsters.

Painted Storks fly in vee formation. They progress with a few flaps followed by a sail. In flight they show a long narrow white strip lengthwise across the wing and meeting on the white back: the outer portions of the wing are black. The bill is yellow.

OPEN-BILL

Anastomus oscitans

A single bird on 23rd September and two on 7th October by the Hindan river were my only records of the Open-Bill.

COMMON GREY HERON

Ardea cinerea

Common Herons were seen throughout the year but were not found nesting. They frequented the river, flooded tracts, pools and jheels. Usually they were in small parties or were met singly. More Herons were seen in the months of March and April than at other times. This referred particularly to the riverain belt where there was some sort of gathering about Okhla: a large banyan tree was the haunt of a dozen or so. The largest gathering seen was

a band of 20 by the river in February.

The Common Heron is larger than the Purple Heron. Its upper parts are a lighter grey with a definite and larger blackish part to the wings.

PURPLE HERON

Ardea purpurea

The Purple Heron is a bird of the reeds. Ponds and jheels fringed with reeds are its haunts. It is sometimes to be seen with head and bill pointing upwards above the grass. This attitude seemed a favourite one. On the only occasion when a bird got up from a jheel and flew to a tree it settled head in air. In flight the neck is kinked.

The Purple Heron did not seem a very numerous species. Single birds and sometimes a couple were seen at a number of ponds and jheels but, short of beating out the reeds, one could not know that there were not others there.

LARGE EGRET

Egretta alba

Large Egrets were met by the river, by jheels and by pools, usually singly or in couples, occasionally three together and once half a dozen. The Large Egret wades in shallow water. Its larger size is the chief difference between the species and *Bubulcus ibis*. On one occasion three Large Egrets were with the same number of Herons and looked very much the same size.

The Large Egret has a yellow bill and black legs although in some instances there was some yellow on the latter.

* In the summer the beak is liable to become black.

SMALLER EGRET

Egretta intermedia

This Egret was met in the shallows of the river, by flooded tracts

and by pools. Its haunts are similar to those of the Large Egret but it is more plentiful than the latter although usually met in small numbers and widely scattered.

In the non-breeding season the bill is yellow and the legs are black : birds were seen in August with black bills and with bills which are half black and half yellow.

LITTLE EGRET

Egretta garzetta

Little Egrets were found about the river and by jheels and pools, indeed almost anywhere where the water was shallow. In the early part of the year, from January to April or possibly longer, there seemed to be a gathering of 50 to 60 birds centred on Okhla where some of them at any rate roosted regularly with Paddy-birds in a leafy tree on the river bank. This gathering was not maintained during the day, for the birds were met then singly and in parties and occasionally in small bands — the largest of which numbered about 16 birds. Little Egrets were often in company with Paddy-birds or Cattle Egrets and sometimes with Smaller Egrets or with Large Egrets.

The only nesting colony noticed was on the Hindan river. On 27th May the birds were starting to nest in a large peepal tree. They were making a curious bubbling noise and there was also some quarrelling and stabbing between birds. On one nest two Little Egrets were fiddling about with the sticks : on other nests birds were sitting. One bird took a twig from a Cattle Egret's nest in a nearby tree and brought it to its own nest in the peepal. The Little Egrets had their back plumes long. On 10th June a cracked fresh egg, pale greenish-blue, lay below the peepal tree. Nesting was still in progress on 8th July, but the Cattle Egrets were now in the peepal tree and seemed more numerous than the Little Egrets. Birds were still flying to the tree with sticks.

The Little Egrets at the nesting colony had black legs and black bills, but the base of the latter and round the black eye was pale bluish : they had drooping plumes from the back of the head and from the breast. In March, amongst a flock of normally plumaged

birds, was one wholly black, except for the bill which was light grey : this bird was seen on 5th March and again on 12th March.

As a Little Egret flies off its feet look yellow.

CATTLE EGRET

Bubulcus ibis

Cattle Egrets were plentiful. They were usually in parties or bands in attendance on grazing cattle. Occasionally parties were met by flooded tracts and pools and on the river. Now and again a Cattle Egret will perch on the back of a grazing water-buffalo but it does not, as a rule, stay there long.

Probably Cattle Egrets collect to roost. No such roost was noticed but, in the early mornings about sunrise, band after band and occasionally a flock, fly out from Delhi to the feeding grounds, returning before dusk. The birds travelled as a rule at about tree-top level, flying in a wavy line, 'rippling' along as it were.

In June the Cattle Egrets had occupied their nesting haunts. At Jangpura a band of some 20 were in a tree by the roadside ; the tree had been occupied by Cattle Egrets the year previously. Another band was nesting with Lesser Egrets in a peepal tree by the Hindan river. The nesting colonies were left before the end of September.

Cattle Egrets have yellow bills and black legs. Birds with their orange-brown breeding feathers were seen into the middle of September.

PADDY-BIRD

Ardeola grayi

Paddy-birds were most plentiful in the vicinity of the river, but were also met away from it where there was water. They frequented the shallows of the river and of canals, flooded areas, jheels and ponds and were met singly and in dispersed parties, and once or twice as a small band. One band seen in December comprised some 15 birds and, at the time I came upon them, they were resting in the shade of an *erianthus* clump on a canal bank with a mixed band

of Bank Mynahs and Starlings. Where a number of small pools occurred it was common to find one Paddy-bird at each.

For a part of the year at any rate, the Paddy-birds collect to some extent to roost. A leafy tree on the river bank at Okhla was shared with Little Egrets from February to May and possibly longer.

The only nesting colony noticed was in a clump of babool trees close to a cattle camp by the river. Paddy-birds were flying to their nests there on 2nd July. Birds seen at the end of August had the deep maroon back which is assumed in the breeding season although many of them had not.

NIGHT HERON

Nycticorax nycticorax

Only one colony of Night Herons was met. It was on the bank of the Okhla canal a little less than a mile above the lock, but was apparently locally migratory. My first sight of the birds was on 8th April when I saw three of them amongst a party of Herons on the top of a gula fig tree in the gardens. A week later on 15th April, a party of seven Night Herons fly up and alight in the same tree which is also occupied by monkeys. Half a dozen Herons are on the top of the next tree. On 29th April the Night Herons were not in the fig tree, but nearly a mile up the canal I came upon 16 to 20 in some bushes on the canal bank together with three Darters. The birds had not been there during the winter. In January the bushes along the canal bank had been heavily cut back, so that only in a few places was there any cover. By the end of April the bushes had grown up a little. This possibly explained the arrival of the Night Herons : they remained until mid-August.

On 29th April the cover did not amount to much, and the Night Herons were in full view. Two plumages were noticed : there were birds with blue-black crowns and mantles; from the back of the crown hung fine wire-like white plumes : the other birds which I took to be juveniles lacked the blue-black colouring ; their upper parts were a uniform grey-brown with some light spots. The Night Herons did not seem very settled and kept on making short flights round. In flight the feet project beyond the tail and the soles are

turned uppermost.

On 6th May I counted two dozen birds in the same place, and a little further on another band. On 9th May there were at least 50 Night Herons, and on 14th May I counted more than 60—the colony extending for 200-300 yards along the canal bank. All through June and into July the Night Herons were in the same haunt. I did not visit the place between early July and 23rd September, but was told that the birds remained there until mid-August. On 23rd September I could see no sign of them, but on 28th October I found a band in a similar situation below the Midanpur bridge and one or two birds in the old haunt. This was my last visit.

LITTLE GREEN HERON

Butorides striatus

The Little Green Heron was seen in only two places — Okhla and the Hindan river. The first occasion I saw the bird was on 4th February : this was at Okhla. It got up from the canal bank close to the lock, flew a few yards into a bush low down and close to the water where it stood with its head poked forward flicking its short tail. In March I saw a Little Green Heron again in much the same place at the foot of the canal bank standing beneath an overhanging piece of earth peering intently into the water. Presently it caught a small fish which it ate and then had a drink, the short tail being flicked up and down. Then the bird, presumably the same individual that I had seen on 4th February, walked along the bank a short distance and took up a fresh position. When it takes flight it utters a short squeak.

In April the Little Green Heron is still in the same haunt. I saw it fly up from the canal into a leafy neem tree where it worked its way up the branches till it was near the top. On 15th April it had a mate : a second bird followed it when it flew into a neem tree and ran along the sloping branches.

On 14th May the Little Green Herons had apparently changed their pitch. I only saw one bird and that was about a mile up the canal beyond the colony of Night Herons. Here the bird was perched on a horizontal branch a few inches above the water. Now and again

it uttered a short 'oh-oh'.

On 3rd June I came upon both Little Green Herons just downstream of the Night Heron colony and rather apart from it. The two birds were together on a branch almost awash in the canal. One of the couple which I took to be the male had a light grey mantle of rather plume-like feathers, and the black crest lying back from the crown looked longer than that of the other birds : its legs were pink. It was hunched in its attitude and occasionally uttered a short 'oh-oh'. The other bird, presumably the female and the one I had seen first, lacked the grey mantle : her colour was the same from crown to tail and her legs were greenish. Both birds had black crowns and a double whitish line down the breast and belly.

On 1st July one of the Little Green Herons was in much the same place as it had been the previous month, but this time it flew on up the canal and when I came upon it again, about 200 yards short of mile two, it is flying across the canal from the opposite bank with a twig in its bill. Both birds are here and are busy building a nest. The latter is a rather wide, flat platform of small twigs on a more or less forked and horizontal branch of a bush-like shisham growing on the bank. The nest is a few feet above the water and is in full view from the footpath, although in a few days it will probably be hidden by the tall grass which is growing up on the bank. Two hours later at about 9 a.m. when I pass the spot again both birds are still at work. The birds do not fly direct to the nest with their twigs, but alight first for a moment on the bank opposite and then fly across. This was my only visit to the nest.

On 28th October a Little Green Heron flew from the canal edge into a neem tree in very much the same place where I had first seen the bird in February.

My only other record of this species was on 8th July on the Hindan river where three flew from some willows on the canal edge.

* CHESTNUT BITTERN

Ixobrychus cinnamomeus

A few breed in dense reed-beds, as for instance at the 9th mile stone along the Mathura road. Not seen in winter.

*** YELLOW BITTERN***Ixobrychus sinensis*

One or two records from dense reed-beds.

*** FLAMINGO***Phænicopterus ruber*

Parties sometimes appear at jheels, chiefly in the hot weather.

*** LESSER FLAMINGO***Phæniconaias minor*

One old record; also noted with the larger species in recent years.

NUKTA OR COMB DUCK*Sarkidiornis melanotos*

On 2nd January I saw a single Nukta with a band of Ruddy Sheldrakes : it looked rather larger than its companions and with its white head and neck and black wings was very conspicuous. I saw it again with the Sheldrake on 30th January and 6th February. On 13th February there were seven Nuktas with the Sheldrake.

My only other record of the Nukta was not a sure one : it was 8th July on the Hindan river when two Goose-like birds got up some distance away and flew off : I saw outstretched white necks, white bodies and black wings.

*** COTTON-TEAL***Nettapus coromandelianus*

An occasional visitor to the Delhi district.

GREYLAG GOOSE

Anser anser

My only records were of flocks flying overhead in January. On 14th January three flocks went by, some 50 about noon and two flocks about four hours later high up and calling. On two other years I saw a single flock on 14th and 31st January respectively. The birds were always flying in V-formation.

* WHITE-FRONTED GOOSE

Anser albifrons

Has been recorded in November and February.

BAR-HEADED GOOSE

Anser indicus

There were only two records of this Goose. On 26th March four flew over near Okhla : they were near enough for the bars on their heads to be visible and they looked as if they intended to settle on the river. On 12th November two Geese taken to be this species, but less certainly, flew over the river near Okhla.

* About as common as the Greylag near the big jheels round Delhi.

* LESSER WHISTLING TEAL

Dendrocygna javanica

Several records.

* SHELDRAKE

Tadorna tadorna

Several winter records.

RUDDY SHELDRAKE OR BRAHMINY

Casarca ferruginea

The Ruddy Sheldrake is a winter visitor arriving in October and leaving in April. In 1944 I noticed on 22nd October, that the birds were back on a sand-bank which they had frequented regularly the previous winter, and in 1945 my earliest records were on 21st October when I saw a band of seven flying downstream near Okhla uttering their complaining 'auh-auh' calls. This party was followed by another of the same size and later on a band of 30 birds went by.

The principal haunt of the Ruddy Sheldrake was a shallow reach of water between two sand-banks in the River Jumna just upstream of the ferry east of Humayun's Tomb. I counted 50 birds here one day bathing in the shallows and asleep on the sand-banks. But the numbers varied, sometimes falling to less than half this number. Probably the couples and small parties one met about the river were from this gathering.

Another favoured haunt was a sand-bank near Okhla. Only once did I see a Sheldrake away from the river : it was a single bird by a largish pond.

When Sheldrakes are resting on a sand-bank, an occasional complaining 'auh-auh' comes from the birds. Towards evening the gathering becomes more active. The birds sometime get up and fly off to settle on the river preparatory to setting off to feed.

There were no records in the second half of April.

* MALLARD

Anas platyrhyncha

A very local species, but not uncommon on jheels with good cover.

SPOTBILL

Anas pæcilorhyncha

Some Duck thought to be Spotbill, although the only feature

clearly seen was the double white wing-bar separated by a green or blue speculum, were seen several times flying about the river, and once swimming on a jheel.

* Small numbers normally to be found on the larger jheels.

GADWALL

Chaulelasmus streperus

Seen occasionally between November and February singly and in small parties on jheels and ponds.

* Often plentiful on large jheels in winter.

WIGEON

Mareca penelope

Several Wigeon were seen on the river with Shoveller, also near Okhla, a party of 20.

* Small numbers on the larger jheels in winter.

COMMON TEAL

Nettion crecca

Teal were seen in the winter on jheels and pools, sometimes in bands, sometimes in small flocks. The largest gathering numbered about 80.

* Huge numbers on large jheels in mid-winter.

* MARBLED DUCK

Marmaronetta angustirostris

Several records, in January and April.

* FALCATED TEAL

Eunetta falcata

A shooting record in February.

* BAIKAL TEAL

Nettion formosum

Two local records : one in 1879, one in 1947.

* PINTAIL

Dafila acuta

Plentiful on jheels, and sometimes seen on or over the rivers in winter (18th September to April).

GARGANEY

Querquedula querquedula

Garganeys were met in parties and bands in the winter on jheels and by the river.

* A plentiful passage migrant, very few remaining near Delhi in mid-winter.

SHOVELLER

Spatula clypeata

Parties and bands were seen in February and March on the river.

* One of the commonest winter Ducks — arriving in August and September ; the last leaving in late April and early May.

*** RED-CRESTED POCHARD***Netta rufina*

Occasional on jheels in winter, rather more frequent during the spring migration.

COMMON POCHARD*Nyroca ferina*

A few Pochard were seen on the river during winter.

* Small numbers spend the winter on jheels.

WHITE-EYED POCHARD*Nyroca nyroca*

White-eyes were seen occasionally on jheels and by the river between October and April. The numbers were small except on the occasion at the end of October when a flock of about 250, thought to be mainly White-eye and Gadwall, bathing and resting at the upstream end of a sand-bank in the river.

TUFTED POCHARD*Nyroca fuligula*

My only record of the Tufted Pochard was on 19th March when a drake and two females were seen swimming in the middle of the river.

* Fairly plentiful on the larger jheels in winter.

*** STIFF-TAILED DUCK***Erismatura leucocephala*

Three were obtained near Delhi in 1882.

*** SMEW***Mergellus albellus*

One old record.

*** THE GREAT CRESTED GREBE***Podiceps cristatus*

Occasional on large jheels; in winter once on the Jumna in January.

THE LITTLE GREBE*Podiceps ruficollis*

Little Grebes were met on reed-fringed jheels; they also visit flooded tracts and ponds. They were usually in parties but were often seen singly or in couples.

Once on 10th June a flock of more than 50 Little Grebes were met on the open water of a jheel near the Hindan river. About half of them flew to a reed-fringed pool full of water-weed and when I came upon the birds there they were busy feeding and did not fly off or dive or seem at all shy. Now and again one bird would chase another and would sometimes swim after it under the water. A sort of whinnying call often came from the birds. Only when I walked along the edge of the pond did any of these Little Grebes dive and, when they did, it was only for a brief while and on coming up the birds did not make for the cover of the reeds.

On other occasions the Grebes were very shy and would either dive at once or scuttle back practically on the surface of the water to take cover in the reeds.

The nesting time is after the rains. On 11th November well out in the Sun Pit pond I noticed the pad-like nest of a Little Grebe. Two adult birds are beside it and three tiny black chicks. One of the adults is pulling weed over the nest, but I cannot see that there are any eggs. Channels through the weed on the pond lead to the

nest from all directions. Presently the two Grebes swim, one has two chicks on its back and the other carries one. There are two other Grebe families on the pond : in one of these there are three youngsters about half grown and in the other the same number about a third grown. These two lots of youngsters are greyish in colour. The very small chicks have some pink on their bills but this does not show on the older youngsters.

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